

45th Mary McMillan Lecture: If Greatness Is a Goal . . .

James Gordon

J. Gordon, PT, EdD, FAPTA, Division of Biokinesiology and Physical Therapy at the Herman Ostrow School of Dentistry, University of Southern California, 1540 Alcazar St, CHP 155, Los Angeles, CA 90089-9006 (USA). Address all correspondence to Dr Gordon at: jamesgor@usc.edu

[Gordon J. 45th Mary McMillan Lecture: If greatness is a goal *Phys Ther.* 2014;94:1518–1530.]

© 2014 American Physical Therapy Association

Published Ahead of Print:
July 10, 2014

James Gordon, PT, EdD, FAPTA (Fig. 1), is professor as well as associate dean and chair of the Division of Biokinesiology and Physical Therapy at the University of Southern California. He received his bachelor of science in physical therapy degree from the State University of New York–Downstate Medical Center. He then worked for 6 years as a physical therapist in acute care, rehabilitation, and home care settings before entering graduate school with the goal of becoming a researcher in the science underlying neurologic rehabilitation. In 1985, he was awarded a doctor of education in movement science degree at Teachers College, Columbia University.

After graduation, Dr Gordon worked as a researcher with a focus on the neural control of movement, especially the roles of proprioceptive information in control of reaching movements. He has held full-time faculty positions in the physical therapy departments at Columbia University, New York Medical College, and University of Southern California. As a researcher and educator, he is recognized for his lectures and writings on applying research in motor control and motor learning to neurological rehabilitation. He also has taught courses in professional practice and co-authored a text on documentation in physical therapy.

Long active in APTA, Dr Gordon is a member of the Education Section, Neurology Section, and Section on Research. Among many other accomplishments, he co-directed PTClinResNet, a groundbreaking, Foundation of Physical Therapy–funded clinical research network. He has been an advocate for excellence in academic physical therapy, and, most recently, he played a leading role in the formation of the American Council of Academic Physical Therapy. Dr Gordon became a Catherine Worthingham Fellow of APTA in 2005 and was chosen to deliver the Education Section’s Pauline Cerasoli Lecture in 2011.



Post a Rapid Response to
this article at:
ptjournal.apta.org

Thank you, Paul [Rockar], for your generous introduction.

Good morning. With your indulgence, I need to say a few more thank-yous before I begin. First, I thank the American Physical Therapy Association (APTA) Board of Directors for selecting me to give this lecture. It is an extraordinary privilege. I also am grateful to my friends and colleagues who nominated me, especially Linda Fетters, who organized the nomination. I am indebted to my faculty colleagues at the University of Southern California and, before that, at New York Medical College and Columbia University. I have learned—and continue to learn—from all of you. I have been fortunate to have had many generous mentors and inspiring teachers, too many to thank individually. I would like to acknowledge Bob Bartlett, who is here today and who was there at the beginning of my professional journey. Bob, you have been my role model for more than 40 years. Finally, I share this honor with my beautiful and courageous wife, Provi, and our children. What I have accomplished, *we* have accomplished, as a family.

I stand before you today to deliver the 45th Mary McMillan Lecture. I can't begin to articulate what an honor it is to give this lecture, in Mary McMillan's name. I should begin by fulfilling a promise I made to a dear friend at last year's lecture to show a better picture of Mary McMillan.

In these photographs (Fig. 2), we see Mary McMillan as a young woman . . . as a clinician . . . as a Reconstruction Aide . . . as a senior leader of the Association. This last picture, taken at Reed College in 1918, is my favorite. Here is Mary as a teacher, surrounded by her adoring acolytes. We get a glimpse here of

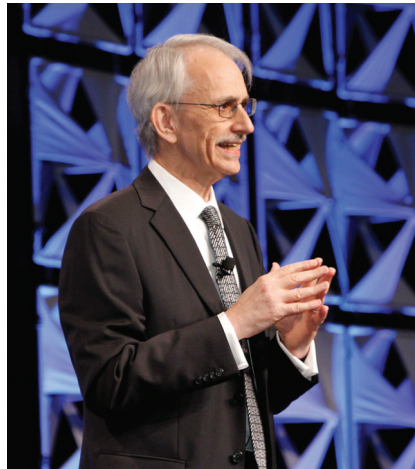


Figure 1.
James Gordon at NEXT in Charlotte, NC.

her charisma. We also see captured what would become the paradigm for physical therapist education for the next 60 years: the gifted teacher and master clinician as exemplar. This paradigm has begun to change in recent years, as I hope to show in my lecture today.

The McMillan Lectures Have Served an Important Role in the Profession's Development

When you are selected to give the McMillan Lecture, you immediately get a homework assignment: to read all of the previous lectures. In my case, that was 44 lectures. I don't mind admitting that I approached this task with some dread. Surely, many of these would be boring and dated.

I discovered, however, that the lectures are, for the most part, a joy to read: fresh and breezy and to the point. The great advantage of the McMillan Lecture is that we—the lecturers—are freed from the normal strictures of academic writing. We can say whatever we want! And most of the previous lecturers did exactly that.

I read the lectures in order, from Mildred Elson in 1964 (exactly 50 years ago!) to Roger Nelson in 2013, and the progression had a profound effect on me. The history of our profession is written in these lectures. Not the history of events, but rather an account of the development of our thinking about ourselves as a profession as well as our relationships with our patients, with other professions, and with society. What we have in these lectures is the record of an ongoing conversation among ourselves about what we need to do to move our profession forward, and especially to become better able to serve society.

It is remarkable that we assemble in this way every year, to engage in this conversation anew. It is a mark of our vitality, our confidence, and our ability to be self-critical that we continue to do this year after year. This lecture is not simply a tradition and a way of honoring our leaders. It is a critical mechanism in our mastery over our profession's growth and development.

May we continue to come together for this lecture for the next 50 years! (I may not make it to all of those, however.)

Vision = Imagination + Will

People think that those chosen to do this lecture have vision, with a capital V—that they have the ability to predict the future. In my reading of the lectures, I didn't detect any special predictive abilities on the part of



Available With
This Article at
ptjournal.apta.org

- **Audio Podcast:** Listen to the 45th Mary McMillan Lecture delivered by James Gordon, PT, EdD, FAPTA, at NEXT 2014 in Charlotte, North Carolina.



Figure 2.

Photographs of Mary McMillan: (A) as a young woman, (B) as a clinician, (C) as a Reconstruction Aide, (D) as a senior leader of the Association, and (E) as a teacher at Reed College in 1918. Photographs reproduced with permission from: Murphy W. *Healing the Generations: A History of Physical Therapy and the American Physical Therapy Association*. Alexandria, VA: American Physical Therapy Association; 1995.

the lecturers. Indeed, many of the lecturers denied having special predictive powers. In 2001, for example, Jules Rothstein noted that he had predicted that they could never make a successful TV show from the movie *MASH*.¹ I myself have to echo Jules' disclaimer. My doctoral advisor is fond of reminding me that in 1981 I predicted that IBM's new color computer would never catch on. "Who needs color to do word processing?" I said at the time.

But the previous McMillan lecturers did have vision. What I discovered from reading the lectures is that vision is not some extraordinary prophetic ability. *What we must do in the future to achieve our goals is clear*. Rather, vision is the ability to imagine that we can accomplish it and the will to persevere when so many others say it can't be done. Vision is imagination plus will.

Helen Hislop Challenged Us to Aspire to Greatness

The title of my lecture is taken from Helen Hislop's 10th Mary McMillan Lecture in 1976.² This is, of course, widely considered the greatest of the McMillan lectures, titled "The Not-So-Impossible Dream." Toward the end of her lecture, she states:

My overriding dream is that physical therapy shall achieve greatness as a profession.

Our aims may be noble, our virtues admirable, our sins minimal, and our practice moral, but without the saving merit of a habitual vision of greatness, its attainment is impossible. If we do not achieve greatness, what we do or what we believe does not matter. We shall be no more noticed than sand dropped and buried with more of its kind at the bottom of the hourglass of time.^{2(p1079)}

Wow! It takes my breath away. There is, of course, Helen's signature rhetorical flourish, but this should

not distract us from what she was saying: *If we do not achieve greatness*, we shall be ground up by historical forces and cast onto the ash heap of history. One hundred years from now we will be a mere footnote in historical accounts on the progress of health care in the 21st century. She allows no middle ground here: either we achieve greatness, or we do not survive as a profession.

Finally, she says:

The issue is clear: if greatness is a goal, it will take great thinking and consummate honesty to achieve it.^{2(p1079)}

"If" greatness is a goal? For Helen, the "if" is entirely rhetorical. For the rest of us, I'm not so sure. Are we willing to challenge ourselves with great thinking? Are we ready for the risks associated with consummate honesty?

We lost Helen Hislop this past year. She was my predecessor as chair at the University of Southern California. Despite the fact that after her retirement she moved far from Los Angeles and never involved herself in the affairs of the department, I have always felt her looking over my shoulder. I mean that in a positive way. Not, "What would Helen do?" but rather, "Are we living up to the high expectations she set for us?"

As I give this lecture, I very much feel her looking over my shoulder. Mary McMillan is there as well. Indeed, all of the previous lecturers are looking over our shoulders. I . . . we . . . have a lot to live up to.

Back to the Future: From RPT to DPT

This lecture also marks a personal anniversary for me. It is 40 years, almost to the day, since I graduated from physical therapy school at Downstate Medical Center in Brook-

lyn, New York. I graduated with a bachelor's degree, which was the norm in those years, and soon after I passed my state board exams, which allowed me to proudly put the letters "RPT" after my name: Registered Physical Therapist.

So, to prepare for this occasion, I decided to engage in a bit of time travel. I called Doctor Emmett Brown of *Back to the Future* fame to see if I could borrow his DeLorean with the plutonium-powered flux capacitor. Since the success of the movies, Doc Brown has moved to Hollywood, so he's practically a neighbor. At first, I was going to ask him to take me back to the 1970s, but I decided against it. Way too scary!

So, instead, I asked him to bring a 1974 new grad "back to the future," to view today's new grad from the perspective of 40 years ago . . . to observe the 2014 DPT from the point of view of a 1974 RPT. And when he arrived in 2014, our 1974 RPT was truly amazed! By 21st century computers? iPhones? Hip-hop music? Reality TV?

No . . . by the DPT! Not in his wildest psychedelic dreams did our 1974 RPT imagine that a physical therapist would ever graduate with a doctor of physical therapy degree. Furthermore, what is truly astonishing to our time traveler is not merely that our current graduates are addressed as "Doctor" but that this change in title reflects a quantum shift in their abilities and expertise as clinicians. That is to say, the DPTs who graduate in 2014 have so much more knowledge, skill, and expertise than the RPTs who graduated in 1974 that it almost seems a different profession. Truly . . . doctors of physical therapy!

In a way that is inconceivable to a 1974 RPT, the 2014 DPT is able to

make an accurate diagnosis of an individual's condition and determine whether it is appropriate for physical therapy intervention, without the need for prescription or referral by a physician.

The 2014 DPT has access to textbooks in every major area of physical therapy that are written by physical therapists and that detail the rationales for treatment and the specific procedures. The 1974 RPT has no textbooks that describe treatment procedures in a systematic fashion.

The 2014 DPT has clinical prediction rules, clinical practice guidelines, evidence-based clinical summaries, and a range of similar tools that are accessible on a pocket-sized device called a smartphone. Not only does the 1974 RPT not know what a smartphone is, he has never heard of a clinical prediction rule or a clinical practice guideline.

Whereas the 2014 DPT is guided by evidence-based practice, the 1974 RPT is guided by what I would call "guru-based practice." That is, early in his career, he has to make a decision as to which of the charismatic therapist gurus he will follow. Will it be Bobath or Brunnström? Or perhaps Knott and Voss? In orthopedics, will it be Mackenzie or Maitland, or maybe Paris?

Most important, the 2014 DPT can treat patients using interventions that are much more effective than those available to the 1974 RPT. The 2 most obvious examples are neuro-rehabilitation³ and the nonsurgical treatment of musculoskeletal conditions.⁴ In both areas, the 2014 DPT has well-developed interventions with proven effectiveness. In comparison, the treatments available to the 1974 RPT can only be described as primitive.

The Past 40 Years Has Seen a Scientific Revolution in Physical Therapy

What has brought about this change? What has happened over the last 40 years that has led to this remarkable improvement in the skill and expertise of physical therapists? In fact, the profession's progress has not resulted from any dramatic breakthroughs in the tools and techniques available to us. Instead, we have gradually improved our ability to use these tools effectively. Progress has resulted from a series of individual advances in our scientific understanding of health and disease and movement that have led, in turn, to insights about how to interpret a specific test or when and how and with whom to apply a given treatment technique.

In other words, the source of our progress is scientific research, carried out by physical therapist-scientists in laboratory and clinical settings. Our vastly improved knowledge and skills as doctors of physical therapy derive from a research revolution that has taken place over the last 40 years.

If the DPTs of 2014 have a flaw, however, it is a certain blind spot. Because of the success of our scientific revolution, we have fallen victim to the false assumption that advances in the clinical science of physical therapy are inevitable . . . that new knowledge comes from a well, or a spigot, and that we merely pump the handle or turn the faucet to obtain new discoveries that will improve our clinical interventions.

Nothing could be further from the truth. The last 40 years of progress in the clinical science of physical therapy has been a painstaking struggle. Every new finding, every peer-reviewed publication, every textbook, every clinical practice guide-

line represents the culmination of years of hard work. In 1974, when our RPT graduated, there was virtually no research infrastructure in physical therapy. During that decade and the decades to follow, a generation of RPTs went back to school and obtained advanced master's degrees and research PhDs. They were motivated by the recognition that our interventions were not accomplishing what they needed to accomplish. They realized that our knowledge base was inadequate. The RPT generation did not have a clear path to follow. They had to blaze their own trails. There were precious few role models, and fewer still were departments that could boast a research infrastructure.

To compare 1974's research environment with today's, I analyzed volume 54 of *PTJ* (the 12 issues published in 1974) and volume 93 (the 12 issues published last year). In 1974, only 12% of the articles were reports of original research compared with 78% in last year's journal (Table). Most of the articles published in 1974's journal can be characterized as interpretations of research carried out in other disciplines. This was the state of our science at the time.

One reason for the dearth of original research in physical therapy was, quite simply, a lack of researchers. There were very few physical therapists with PhDs. In the 1974 volume of *PTJ*, only 24% of the articles had a PhD as author compared with 94% in 2013 (Table).

In 1974, most physical therapy programs had not a single PhD on faculty. (By the way, I want to clarify that in this lecture, when I refer to physical therapy programs, I am not including PTA programs. Those need to be the subject of another lecture, one I am not qualified to give.)

In 1977, Rosemary Scully did an amazingly comprehensive survey of the faculty in physical therapy programs.⁵ At that time, only 13% of faculty members had advanced doctoral degrees, that is, PhD or equivalent (Fig. 3). There were just 65 physical therapists with PhDs in academic physical therapy.

In 2013, according to Commission on Accreditation in Physical Therapy Education (CAPTE) data,⁶ 63% of physical therapy faculty have PhDs or equivalent degrees (Fig. 3). There are more than 1,600 faculty with PhD-level training in today's academic physical therapy. This is more than a 25-fold increase in the last 40 years.

The Academic Paradigm in Physical Therapy Has Shifted

In the Education Section's Pauline Cerasoli Lecture in 2011,⁷ I proposed that the physical therapy profession has at long last reached a milestone in its maturation, what I called the "ascendancy of academic physical therapy." I defined *academic physical therapy* as the collective network of accredited physical therapy programs that carry out, in varying degrees, 3 interrelated functions: first, educating the next generation of physical therapists and scientists; second, discovering the causes of and treatments for disabling health conditions; and third, advancing clinical practice while caring for patients.

Thus, the ascendancy of academic physical therapy means that all education programs have a tripartite mission: education, research and scholarship, and clinical practice. This is often referred to as the 3-legged stool, with the implication that we need to have all 3 legs for support, but I also like to think of it as a triad (Fig. 4), in which each component of the mission interacts with the other 2, so that there is a

Table.

Comparison of 1974 and 2003 Volumes of PTJ

Type of Article	1974 (Volume No. 54)	2013 (Volume No. 93)
Number of articles	95	143
Perspective	27%	17%
Research Report	12%	78%
Case Reports/Series	8%	5%
Clinical Report	45%	0%
Educational Report	7%	0%
Total number of authors	144	685
Number of authors per article	1.5	4.8
Authors with PhD	19%	57%
Articles with PhD authors	24%	94%

synergy among them. The whole becomes greater than the sum of its parts.

When we look at it this way, we can begin to see that academic physical therapy is not merely the set of accredited physical therapist education programs. The term has a broader meaning. Academic physical therapy is the profession's infrastructure for knowledge creation. Indeed, one can think of it as a process: the academic enterprise, the integrated set of activities that discover new knowledge, translate it, shape it, and disseminate it.

A sound academic enterprise, in which all 3 legs of the stool are strong, is essential to our external credibility as a profession.

In the Cerasoli Lecture, I asserted that:

1. All physical therapist education programs must be committed to research and scholarship;
2. All programs should have their own clinical practice; and
3. All programs must provide an educational experience that is

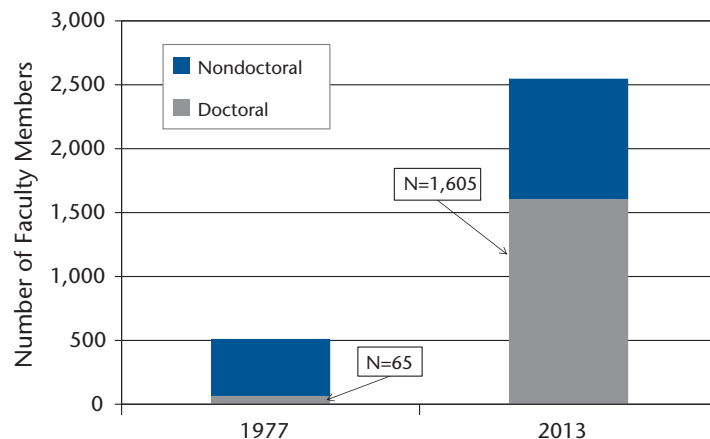


Figure 3.

Increase in number of doctorally prepared faculty members from 1977 to 2003. Doctorally prepared faculty are defined as having a PhD, EdD, DSc, or similar degree; DPT degrees not included in this category. 1977 data taken from Scully and Cox⁵; 2013 data obtained from the Commission on Accreditation in Physical Therapy Education.⁶

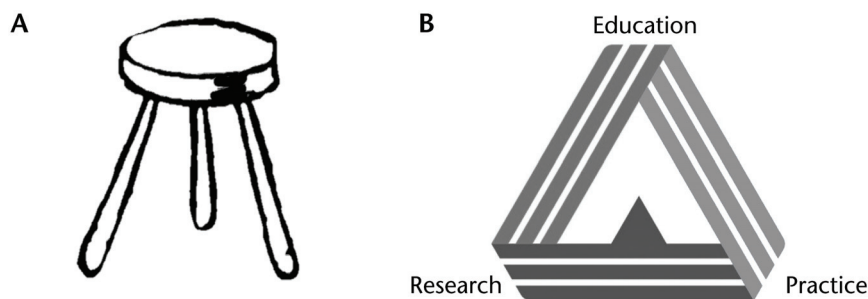


Figure 4. Two symbols of academic physical therapy: (A) the 3-legged stool, (B) the academic triad.

commensurate with the current status of physical therapy as a discipline. That is, every program must have a faculty with expertise across the spectrum of physical therapy.

This last point is critical. As the profession has matured, the academic paradigm has shifted. We now understand that the ideal professional education takes place in a complex academic milieu rather than by exposure to one or a few charismatic exemplars or master clinicians. If, as is said, “It takes a village to raise a child,” then we can also say, “It takes a faculty to educate a physical therapist.”

Academic Physical Therapy Is the Profession’s Knowledge Factory

The research revolution of the last 40 years occurred because the profession built, brick by brick, an infrastructure for creating new knowledge, testing it, shaping it into frameworks for clinical practice, translating it into specific clinical techniques, and, finally, disseminating it to students and clinicians. This infrastructure has a name: academic physical therapy (Fig. 5A).

It includes research scientists, both basic and clinical; translationists and educators, who shape research findings into clinically useful frame-

works; and clinical innovators, the early adopters of new frameworks, who forge innovative treatment approaches on the anvil of the real world.

The large arrow in this figure represents the translational pathway, “from bench to bedside” in the parlance of medical research. But the important work of knowledge creation actually takes place in the networks of feedback and feedforward loops among the various role-players in this organization (Fig. 5B).

This is not, by the way, the kind of “org chart” that a human resources administrator likes to see. It is, however, just the kind of “org chart” that an academic leader strives to achieve.

We Are Evolving a 2-Tiered Educational System

Thus, over the past few decades, we have created an entity that we can truly call academic physical therapy. As impressive as this accomplishment is, we must recognize that it is still in a nascent state, far from stable. Having birthed this enterprise, we now face the task of nurturing it so that it achieves maturity and permanence. And here we face a significant problem—more than a problem, a crisis. We are evolving a 2-tiered educational system in physical therapy.

The single greatest threat to the development of a fully mature academic enterprise in physical therapy is the proliferation of small, inadequately resourced programs. In the Cerasoli Lecture, I noted that in comparison with the professions that we should measure physical therapy against—medicine, dentistry, and pharmacy—we have many more educational programs, with much smaller class sizes^{8–11} (Fig. 6).

There are 700,000 practicing physicians in the United States compared with 200,000 physical therapists.¹² Despite this, medical education (along with pharmacy and dental education) is concentrated into many fewer institutions, with corresponding differences in average class size.

Is there something wrong with this picture?

Ultimately, it is not class size that matters, but rather faculty size. As shown in Figure 7, almost half of all physical therapy programs have fewer than 10 core faculty members.⁶ We may ask, how many faculty members does it take to educate a physical therapy student? There may have been a time in our history when a handful of teachers could impart the clinical and scientific wisdom necessary to go out and practice, but that time is over. Physical therapy is a complex discipline; it requires a faculty with breadth of knowledge in a variety of clinical and scientific areas. I would argue that simply to cover the basics in a physical therapy curriculum, 10 core faculty members is an absolute minimum. And if we include the responsibilities associated with research, scholarship, and clinical practice, even 10 faculty members is not sufficient.

How many programs are truly engaged in research and scholarship? This is a more difficult question to answer. To get a first approximation,

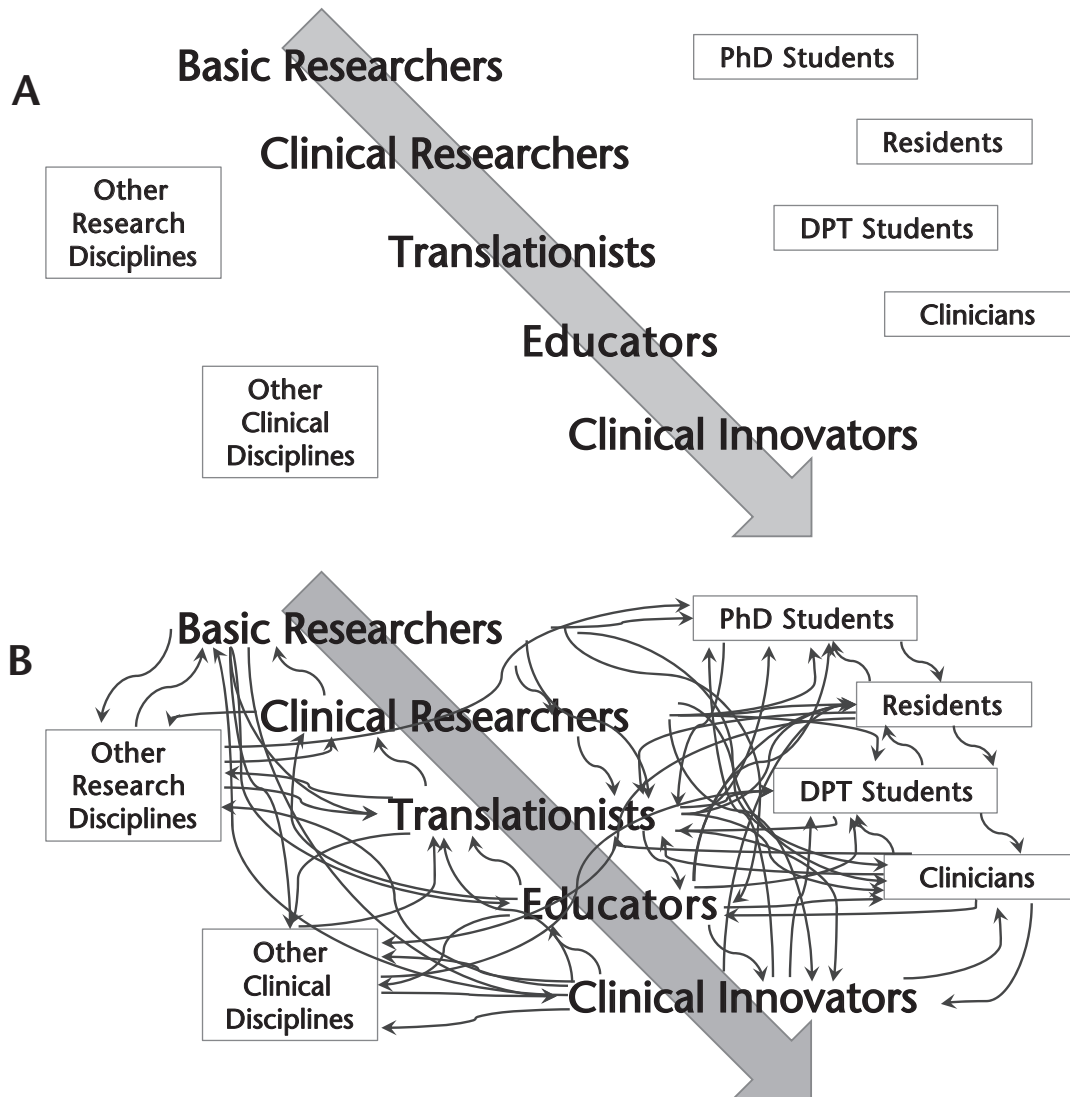


Figure 5.

Academic physical therapy: the knowledge factory. (A) The large gray arrow represents the translational pathway. (B) The many smaller arrows emphasize the importance of feedback and feedforward loops in the process of knowledge creation.

I examined the websites of all physical therapy programs in CAPTE's directory of accredited programs.¹³ I asked, "Does the program state that research or scholarship for the advancement of the profession is part of its mission?" This is surely a low bar, but it gives us a first approximation of how many programs are committed to research and scholarship.

The results are shown in Figure 8. Half of the programs did include

research or scholarship in their mission statements. Half did not.

I should say that these numbers undoubtedly paint too optimistic a picture. When I looked more closely at the websites of the programs that profess a research mission, only about 75% actually highlighted the faculty's scholarship on their websites. Nevertheless, even taken at face value, this figure dramatically illustrates that we are at great risk of evolving a 2-tiered system.

All Physical Therapy Educational Programs Must Have a Research Mission

There is a widely held belief that it is OK for programs to not have a research mission—that they can still be strong teaching programs. I would argue that this belief is incorrect for 2 reasons.

First, faculty who are critically engaged in research and scholarship in the areas in which they teach will

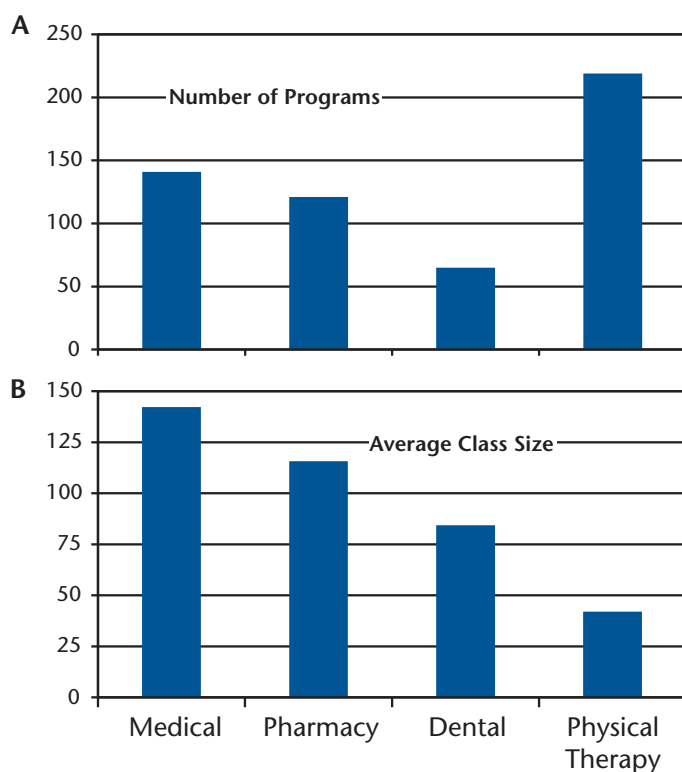


Figure 6.

Comparison of professional education programs in different professions. (A) The number of US programs in medicine, pharmacy, dentistry, and physical therapy. (B) Average class sizes in the professional education programs of medicine, pharmacy, dentistry, and physical therapy.

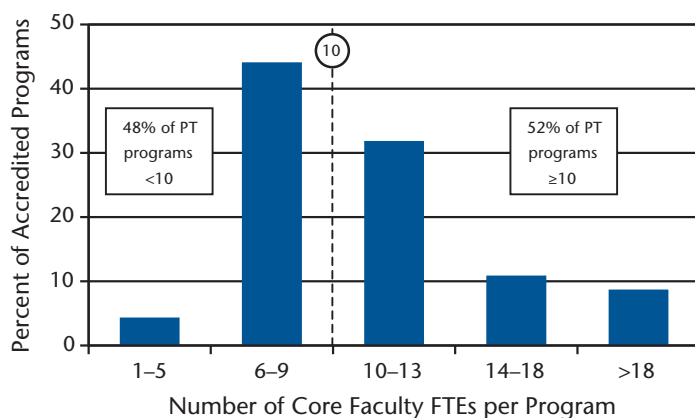


Figure 7.

Distribution of faculty sizes among accredited physical therapist (PT) education programs. Faculty size is estimated as the number of full-time equivalent (FTE) core faculty in each accredited program.

be, as a rule, better teachers than those who are not engaged in scholarship. Our mission in professional education is not to prepare students for practice as it was carried out in the past, nor even as it is carried out in the present. Our mission is to educate our students for practice as it will be carried out in the future, 5 and 10 years from now. Only if we are actively engaged in creating that future can we be strong and effective teachers.

Second, as I noted earlier, it takes a village of faculty, with expertise in a variety of areas, to effectively prepare doctors of physical therapy. Ideally, this village should include researchers, translationists, and innovative practitioners. Small programs with a few dedicated teachers cannot provide the kind of preparation that doctors of physical therapy require in the 21st century.

There is an even more serious problem with the view that it is OK for programs to not have a research mission. A 2-tiered system with some research-intensive programs but an increasing number of programs that have a pure teaching mission is unsustainable.

As any child who has played on a seesaw can tell you, this is an unstable balance point (Fig. 9). One side or the other will eventually become “heavier,” and the programs on the other side will “slide” toward the heavier side. On the non-research side, the principal force “pushing down” is cost pressure. It is simply cheaper to run a program without having to worry about a research mission. Research requires investment in facilities, faculty, time for faculty to do research, and administrative support. In the current marketplace of higher education, it is difficult to imagine that programs with a research mission won’t find it more and more difficult to compete.

The pressure to reduce tuition by cutting research will be difficult if not impossible to withstand.

We Must Not Cheapen DPT Education

Indeed, we face increasing pressure to make professional education more affordable. DPT students face rising tuition. States are investing less and less money in higher education, especially graduate programs. Government support for research is shrinking. In this environment, cheaper programs without research will undercut those with research programs. They will especially drive programs in the middle toward the non-research side of the seesaw. This is the way the free market works. Eventually, even excellent programs with strong research cannot compete on price, and they go away altogether.

Here, I need to be clear. Our society faces a significant problem of college affordability, one that we must find ways to solve. We feel this problem especially acutely in physical therapy, as we have watched the debt loads of our graduates grow larger. We do need to find ways to make DPT education more affordable. In fact, I would argue that one way to accomplish that would be to consolidate programs, not start new ones. Large programs with large faculties can achieve economies of scale that reduce cost.

Nevertheless, we must not try to solve this problem by cheapening DPT education. We seriously misunderstand the problem if we view DPT education as job training or workforce supply. What we do in academic physical therapy, and indeed in higher education as a whole, is not just to communicate knowledge to students, not just to train them in professional skills, but also to create new knowledge and improve clinical skills. Without continual creation of new knowledge, physical therapy will cease to advance. The well will run dry. We will become

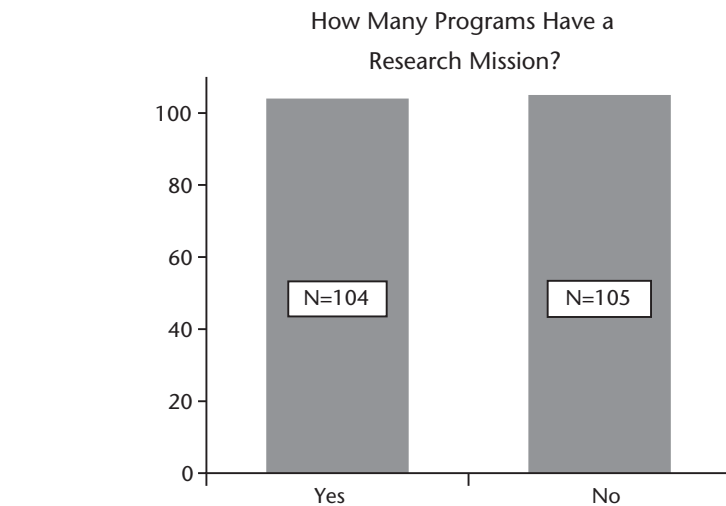


Figure 8.

Number of accredited physical therapist education programs whose mission statements indicate that they have a research mission. Based on analysis of all program websites.

grains of “sand dropped and buried with more of its kind at the bottom of the hourglass of time.”^{2(p1079)}

People! Teaching physical therapy is not the same as teaching a language. If we were teaching our students to speak French fluently, we could hire excellent French teachers, and that would be that. But physical therapy is not a language. It is a living disci-

pline, a dynamic field. New knowledge is being created continually. The faculty who are teaching DPT students are the same people who are creating the new knowledge that is being taught to the students and that is advancing the field.

We can think of the modern pharmaceutical industry as an analogy. When we look at the cost of a pill,

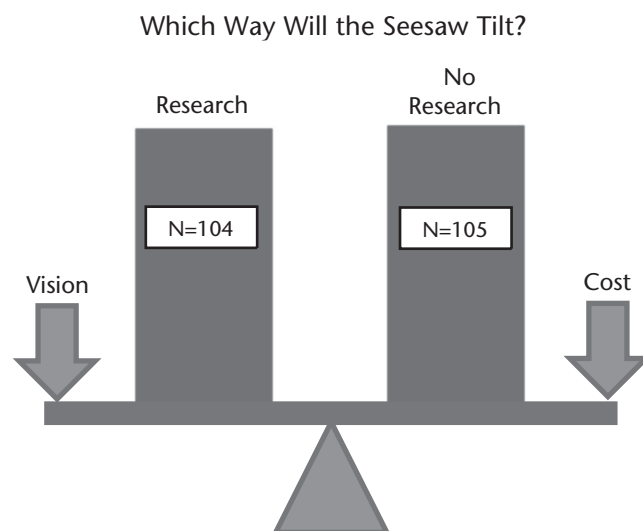


Figure 9.

Which way will the seesaw tilt? The profession’s DPT education system is effectively a 2-tiered system with the risk that programs with no research mission will become the norm and undercut those with a research mission.

we often ask, “How can this one pill cost so much to manufacture?” But, of course, the bulk of the cost is not in the manufacture of the pill, but in the research and development that produced the new drug. Without “R&D,” there are no new drugs.

In physical therapy, “R&D” takes place in the academic enterprise. Without the past 40 years of evolution of academic physical therapy, we would still be arguing whether to use the Bobath or Brunnström technique to treat patients with stroke. Without academic physical therapy in the future, we will be stuck forever with our current methods for treating patients. Who here believes that we have solved the problem of how to rehabilitate patients with stroke? Who believes that we have figured out how to cure low back pain? We have a long way to go to achieve greatness.

It is expensive to run high-quality DPT programs that advance the practice of physical therapy through research, scholarship, and innovative clinical practice. Finding the funds to accomplish this is a daily challenge for those of us engaged in this enterprise. What then are the principal forces “pushing down” on the research side of the seesaw? Vision. Imagination. Will. These can be powerful forces as well.

We Need to Act Together to Strengthen Academic Physical Therapy

What is to be done? What we have to do to achieve our goals is clear: we need fewer programs with larger faculties that are committed to a tripartite academic mission of research, education, and clinical practice. Such programs, with more diverse faculties, who are engaged in research and who practice in innovative clinical environments, will do a better job of educating DPT students and are essential to

the continued advancement of clinical practice.

I propose this with some trepidation . . . I am not foolish enough to think that this is a simple problem that can be solved quickly or easily. I certainly don’t expect small programs with small numbers of faculty and no research mission to close merely because some might wish them to.

Let us start by declaring that this is not a case of “us [research programs] versus them.” Nor is it “us [non-research programs] versus them.” It is a problem of “us.” Many from my generation will remember Pogo’s famous line: “We have met the enemy, and he is us.”

Let’s begin by changing “us” to “we.” “We” is a much stronger word. We need to act together to solve this problem. I have enormous respect for my colleagues in physical therapy education. They are bright, creative, and work very hard. The faculty members I know who work in smaller programs have extraordinary skill and expertise and are dedicated to teaching. It is not an issue of personnel; the problem is structural. Small programs are simply at a disadvantage: they do not have adequate resources.

We can build a stronger academic foundation for our profession. It may take a generation or even two, but we can accomplish it. This will not be an easy problem to solve. But we must start with a recognition of the problem. What Helen Hislop called “consummate honesty.”

Where do we start? I propose that we start by working within the organizations most concerned with this issue.

The good news is that we now have an organization—the American Council of Academic Physical Therapy (ACAPT)—whose mission is to

promote excellence. ACAPT is our organization. We are ACAPT. Acting together in ACAPT, we can build a strong academic enterprise. This task must be at the top of ACAPT’s list of strategic priorities.

I propose that ACAPT lead the way by undertaking the equivalent of a Flexner-type report for academic physical therapy. In the early 20th century, US medicine was transformed by a comprehensive report on the state of medical education.¹⁴ It was commissioned by the Carnegie Foundation and led by an educator, Abraham Flexner.

We desperately need an objective and comprehensive study of professional education in physical therapy. It should be conducted by an outside group and directed by a committee of educators representing our peer professions: medicine, dentistry, and pharmacy. It should be funded by ACAPT with assistance from APTA.

I propose that we name this study the Worthingham Report, in honor of Catherine Worthingham, who worked tirelessly to improve physical therapy education and who published the first comprehensive studies of academic physical therapy in the United States.^{15–21}

Next . . . CAPTE—the Commission on Accreditation in Physical Therapy Education. CAPTE is our organization. Almost 40 years ago, our profession’s leaders wrested control of accreditation from the American Medical Association and established CAPTE so that we could control our destiny as a profession.^{22,23} We are CAPTE!

And yet we, my colleagues and I, often treat CAPTE as an inconvenience, even an adversary. For example, a decade ago, CAPTE instituted new rules to ensure that all faculty members were engaged in scholar-

ship, and we have fought those rules, gradually weakening them.

We must work with CAPTE, not against it. CAPTE will play an essential role in building a sound academic enterprise. To accomplish this we—CAPTE—must do the following things:

First, we must recognize the primacy of the tripartite academic mission. CAPTE must move beyond the stance that it is only concerned with education.

Second, we must institute a rigorous accreditation process for existing programs. CAPTE should require all programs to measure a standard set of outcomes. It should apply faculty scholarship requirements strictly. And accreditation should be transparent, with publication of deficiencies for all programs.

Third, we must raise the bar for new programs. Stop the bleeding. New programs are proliferating at an alarming rate, and the majority have small faculties with little or no capacity for research and scholarship. Development of new programs can be positive for the profession, but only if CAPTE requires a substantial investment by the parent institution.

We are APTA. We have a grand vision²⁴—“Transforming society by optimizing movement to improve the human experience”—one that I fully support. But we will not accomplish this vision unless we build a strong academic foundation. Unfortunately, we—APTA—have fallen victim to the same blind spot that afflicts our new DPTs—the false assumption that advances in the clinical science of physical therapy are inevitable . . . that new knowledge comes from a well, or a spigot.

I searched APTA’s Strategic Plan in vain for any reference to academic

physical therapy.²⁵ We—APTA—must put academic physical therapy at the top of our list of strategic priorities. We can start by providing a one-to-one dollar match of ACAPT’s budget contribution for producing a new Worthingham Report.

Finally, we are the Foundation for Physical Therapy. For the last 35 years, the Foundation has played a critical role in building the research infrastructure that physical therapy needs in order to achieve greatness. We—all of us—need to support the Foundation!

We Are Responsible for the Profession’s Future

Is greatness a goal? If so, we must begin now—today—to strengthen the foundation of our profession. That foundation is the entity that we call academic physical therapy.

We are the architects of our profession’s future. Through our efforts today, we design and build the foundations and frameworks that will make it possible for a strong and vibrant and creative profession to emerge in the next decade, in the next 40 years, in the next century. The decisions we make today and in the next few years will shape academic physical therapy and enable—or not—our profession to achieve greatness.

What we must do in the future to achieve our goals is clear. Let us engage our imaginations. Let us strengthen our collective will. Above all, let us aspire to greatness.

Acknowledgments

Simon Orozco, MS, provided invaluable assistance with research and data analysis in the preparation of this lecture. I had conversations with a large number of individuals who helped me to formulate the ideas in this lecture. I want to especially recognize the following people

who participated in early discussions as I developed the topic area: George Coggeshall, Linda Fетters, Beth Fisher, Zoher Kapasi, Kornelia Kulig, Rob Landel, Cheryl Resnik, Julie Tilson, and Carolee Winstein. Finally, I am extraordinarily grateful to the following individuals who wrote letters of support for my nomination: Bob Bartlett, Linda Fетters, Gail Jensen, Alan Jette, Mary Rodgers, Rick Segal, and Scott Ward.

The 45th Mary McMillan Lecture was presented at NEXT: Conference & Exposition of the American Physical Therapy Association; June 12, 2014; Charlotte, North Carolina.

DOI: 10.2522/ptj.2014.mcmillan.lecture

References

- 1 Rothstein JM. Thirty-Second Mary McMillan Lecture: Journeys beyond the horizon. *Phys Ther*. 2001;81:1817–1829.
- 2 Hislop HJ. Tenth Mary McMillan Lecture: The not-so-impossible dream. *Phys Ther*. 1975;55:1069–1080.
- 3 Langhorne P, Bernhardt J, Kwakkel G. Stroke rehabilitation. *Lancet*. 2011;377:1693–1702.
- 4 Delitto A, George SZ, Van Dillen LR, et al. Low back pain. *J Orthop Sports Phys Ther*. 2012;42:A1–A57.
- 5 Scully RM, Cox R. *Physical Therapy and Physical Therapist Assistant Faculty Members, 1977: A Statistical Description*. Pittsburgh, PA: University of Pittsburgh; 1978.
- 6 *2013 Annual Accreditation Report*. Alexandria, VA: Commission on Accreditation in Physical Therapy Education. March 2014.
- 7 Gordon J. Excellence in academic physical therapy: what is it and how do we get there? (Pauline Cerasoli Lecture). *J Phys Ther Educ*. 2011;25:8–13.
- 8 Commission on Accreditation in Physical Therapy Education. 2012–2013 fact sheet: physical therapist education programs. Available at: <http://www.capteonline.org/AggregateProgramData>. Accessed March 2014.
- 9 Association of American Medical Colleges. Results of the 2013 medical school enrollment survey. Available at: <http://members.aamc.org/eweb/upload/13239%20Enrollment%20Survey%20201310.pdf>. Accessed March 2014.
- 10 American Association of Colleges of Pharmacy. Fall 2013 profile of pharmacy students. Available at: http://www.aacp.org/resources/research/institutionalresearch/Documents/Fall_13_Introduction.pdf. Accessed March 2014.

45th Mary McMillan Lecture

- 11 American Dental Education Association. ADEA deans' briefing book 2013. Available at: <http://www.adea.org/deansbriefing/>. Accessed March 2014.
- 12 US Department of Labor. Bureau of Labor Statistics. Available at: <http://www.bls.gov>. Accessed March 2014.
- 13 Commission on Accreditation in Physical Therapy Education. Directory of accredited physical therapist education programs. Available at: <http://www.captconline.org/Programs/Accredited/>. Accessed March 2014.
- 14 Beck AH. The Flexner Report and the standardization of American medical education. *JAMA*. 2004;291:2139–2140.
- 15 Worthingham CA. What is the future of physical therapy education? *J Am Phys Ther Assoc*. 1963;43:645–649.
- 16 Worthingham CA. Curriculum patterns for basic physical therapy education: compared with six selected undergraduate fields. *Phys Ther*. 1968;48:7–20.
- 17 Worthingham CA. The environment for basic physical therapy education—1965–1966: the academic or theoretical phase. *Phys Ther*. 1968;48:935–962.
- 18 Worthingham CA. The clinical environment for basic physical therapy education 1965–1966, II: staff. *Phys Ther*. 1968;48:1353–1382.
- 19 Worthingham CA. The 1961 and 1965 graduates of the physical therapy schools, I: 1961 graduates; II: 1965 graduates. *Phys Ther*. 1969;49:476–479.
- 20 Worthingham CA. Study of basic physical therapy education, V: request (prescription or referral) for physical therapy. *Phys Ther*. 1970;50:989–1031.
- 21 Worthingham CA. Study of basic physical therapy education, VI: findings of the study in relation to trends in patient care and education. *Phys Ther*. 1970;50:1315–1332.
- 22 Neiland VM, Harris MJ. History of accreditation in physical therapy education. *J Phys Ther Educ*. 2003;17:52–61.
- 23 Lovelace-Chandler V. Leading leaders: a vision for our centennial years (Linda Crane Memorial Lecture). *Cardiopulm Phys Ther J*. 2011;22:19–28.
- 24 American Physical Therapy Association. Vision statement for the physical therapy profession and guiding principles to achieve the vision. Available at: <http://www.apta.org/Vision/>. Accessed March 2014.
- 25 American Physical Therapy Association. Strategic plan. Available at: <http://www.apta.org/StrategicPlan/>. Accessed March 2014.