Emerging Trends in the Professional Doctorate

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Learning Objectives

During this session, participants will learn

- What the Bureau of Labor Occupational Employment projections are and their possible impact on future professional doctorate development
- The differences between PhDs and professional doctorates (ProDs)
- The historical context in which ProDs emerged and factors influencing their emergence and growth
- Controversies surrounding their rapid growth
- The academic paths for ProDs versus PhDs
- The strategies for creating and supporting ProDs, along with associated potential risks.

Fastest Growing Occupations

Between 2016 and 2026, The US Bureau of Labor projects -

Occupational employment will increase by 7.4%

Fastest growing segments:

- Healthcare support occupations 23.2%
- Personal care and service occupations 18.2%
- Technical occupations 15.2%
- Community and social service occupations 13.5%
- Computer and mathematical occupations 13.5%

Many of these increasingly require advanced professional degrees to be competitive

www.bls.gov/emp/ep_table_103.htm.
www.bls.gov/news.release/ecopro.nr0.htm

PhD Versus ProD -1

What distinguishes a PhD from a Professional Doctorate (ProD)?

PhD – "traditional credential attribute of an individual awarded by an institution of higher education after successful defense of a dissertation, recording the candidate's independent and original contribution to knowledge".

ProD – more ambiguous; some overlap with PhD.

- Professional doctorate is '*a program of research and advanced study which enables the candidate to make a significant contribution to knowledge and practice in their professional context [and] ... more generally to scholarship within a discipline or field of study*'
- Production of 'knowledge-in-context' and the application of research to the *social*, *political and economic* contexts is a major differentiator from other doctorates.

Hesseling 1986
Council of Australian Deans and Directors of Graduate Studies 1999
Maxwell and Shanahan (1997)

PhD Versus ProD -2

Neither the PhD nor the ProD programs are homogeneous.

Research

- PhD expected to explore any topic within the field, make a unique contribution to the scientific literature, start with a lit review, determine hole in knowledge and seek to fill it.
- ProD research should contribute to knowledge of professional practice, typically applied research, start with a professional problem and find a solution

Admission Requirements

- PhD students start as apprentice researchers; many have only a bachelor's degree, but others have a master's
- ProD have significant experience in professional practice and most have a master's degree OR are entering a clinical field

Mode of Study

- PhD is optimally full-time, immersed in lab work with some coursework
- ProD is often part-time and integration between work and study is expected.
  - Caveat: clinical doctorates involve integration between clinical practicum and study.

NSF and SED Recognize Other Non-PhD Doctorates as Research Doctorates

- NSF recognizes and classifies 48 professional doctorates as research doctorates equivalent to the PhD
- The SED, which collects information on research doctorate recipients in the USA, recognizes 23 types of research doctorates other than the PhD.
- Both the NSF and the SED classifications exclude first professional or non research-oriented doctorates in their reports

Research doctorates included in the Survey of Earned Doctorates: 2011–15

Research degree	Degree title
PhD	Doctor of Philosophy
EdD	Doctor of Education
DSc, ScD	Doctor of Science
DEng, DESc, DES	Doctor of Engineering or Engineering Science
DA	Doctor of Arts
DBA	Doctor of Business Administration
DMA	Doctor of Musical Arts
DDes	Doctor of Design
DPH	Doctor of Public Health
DHL	Doctor of Hebrew Letters
DME	Doctor of Music Education
DML	Doctor of Modern Languages
DNSc	Doctor of Nursing Science
ThD	Doctor of Theology
DFA	Doctor of Fine Arts
JSD, SJD	Doctor of Juridical Science
STD	Doctor of Sacred Theology
JCD	Doctor of Canon Law

https://www.nsf.gov/statistics/2017/nsf17306/datatables/tab-a-02.htm

Decline Seen in Non-PhD Research Doctorates With Rise of ProDs

Between 2005 and 2015, non PhD Research Doctorates Down from ~10% to ~2% of Total Research Doctorates

Research Degree	2005	2011		2015	
	%	#	%	#	%
All research doctorates		48,914	100.0	55,006	100.0
PhD	90.3%	**47,845**	97.8	**53,910**	98.0
EdD	7%	699	1.4	622	1.1
All others*	2.7	370	0.76	457	0.96

Decline in non-PhD research degrees mirrors rise in Professional Doctorates

Research degrees included in the Survey of Earned Doctorates: 2011–15

History of Earned PhDs

Originated in Germany with strong government impetus

- 1652: 1st PhD degree - University of Leipzig - teaching terminal degree
- Early 1800s: 1st research focused PhDs -University of Berlin – strong foreign students (US) attraction
- 1861: 1st US earned PhD (Yale University)
- Subsequently - PhD quickly established as the highest and most rigorous terminal degree globally.

University of Leipzig

https://www.britannica.com/topic/University-of-Leipzig

MD - the First Professional Doctorate Degree

1703: First global MD degree

University of Glasgow

1767: First US MD Degree

Columbia University College of Physicians and Surgeons

History of Pro D in the US

Most Pro D degrees in the US established as pre-service vs in service degrees in other countries

1921:	EdD degree	(Harvard U)
	Eliminated by Harvard in 2013, replaced by PhD	
1930s:	EdD expanded to nurses seeking to develop teaching expertise and to prepare for nursing teaching positions ; quickly became teaching profession's highest degree	
1960s/70s:	**Expansion of New Professional Degrees:**	
1960	Doctor of Nursing Science (DNS/DNSc)	(Boston U)
1968:	Doctor of Psychology (PsyD)	(U Illinois)
1970:	Doctor of Ministry	(Claremont U)
1992:	DPT	(USC)
1994:	Doctor of Audiology,	(Baylor U)
1995:	Doctor of OT	(Creighton U)
1999:	Doctor of Professional Studies	(Pace U)

Tucker 2006, Edwardson 2001, Peterson 1968 .

Professional Doctorates in 32 Selected US institutions

Professional Doctorate	# of Institutions	Professional Doctorate	# of Institutions
Doctor of Education (EdD)*	26	Doctor of Occupational Therapy (OTD)	2
Doctor of Law (JD)	16	Doctor of Optometry (OD)	2
Doctor of Medicine (MD)	16	Doctor of Psychology (PsyD)	2
Doctor of Musical Arts (DMA)	10	Doctor of Science (DS)	2
Doctor of Audiology (AuD)	9	Doctor of Clinical Science (CScD)	1
Doctor of Physical Therapy (DPT)	9	Doctor of Design (DDes)	1
Doctor of Pharmacy (Pharm D)	7	Doctor of Health Sciences (DHSc)	1
Doctor of Veterinary Medicine (DVM)	7	Doctor of Hebrew Literature (DHL)	1

F. Chiteng Kot and D.D. Hendel , Studies in Higher Education, 2012

*Also included in SED for Research Doctorate

Professional Doctorates in 32 Selected US institutions

Professional Doctorate	# of Institutions	Professional Doctorate	# of Institutions
Doctor of Nursing Practice (DNP)	6	Doctor of Marriage and Family Therapy (DMFT)	1
Doctor of Judicial Science (DJS)	5	Doctor of Medical Science (DMSc)	1
Doctor of Public Health (DPH)*	5	Doctor of Music Education (DME)*	1
Doctor of Dental Surgery (DDS)	4	Doctor of Nursing Science (DNSc)*	1
Doctor of Dental Medicine (DDM)	3	Doctor of Planning & Development Studies (DPDS)	1
Doctor of Business Administration (DBA)*	3	Doctor of Plant Medicine (DPM)	1
Doctor of Engineering Science (DESc)*	2	Doctor of Public Administration (DPA)	1
Doctor of Osteopathic Medicine (DO)	2	Doctor of Speech-Language Pathology (SLPD)	1

F. Chiteng Kot and D.D. Hendel , Studies in Higher Education, 2012

*Also included in SED for Research Doctorate

UNMC
BREAKTHROUGHS FOR LIFE.

~ 4,000 Graduate and Health Professions Students
Including ~500 Biomedical Research Grad Students

University of Nebraska System's Health Professions University

7 Health Colleges	7 Profess. Doctorates	Other Degrees / Certificates
Medicine	MD	None
Nursing	DNP	BSN, MSN
Pharmacy	PharmD	None
Allied Health Professions	DPT / OTD*	14 disciplines including *Masters in Physician Assistance*, *Masters in Perfusion Science*, *Med Nut*, and *Health Professions Teaching and Tech*
Public Health	DPH*	MPH
Dentistry	DDS	BS in Dental Hygiene
Graduate Studies	PhD (Research)	MS

2 Institutes
Munroe Meyer Institute
Eppley Cancer Institute

*** Under development**

Missouri State

Factors Influencing Emergence and Growth of Professional Doctorates

3 major factors

- Employability of doctoral graduates and critique of the PhD
- Growth of the knowledge economy and the changing role of higher education
- Governmental involvement and public policy

F. Chiteng Kot and D.D. Hendel , Studies in Higher Education, 2012

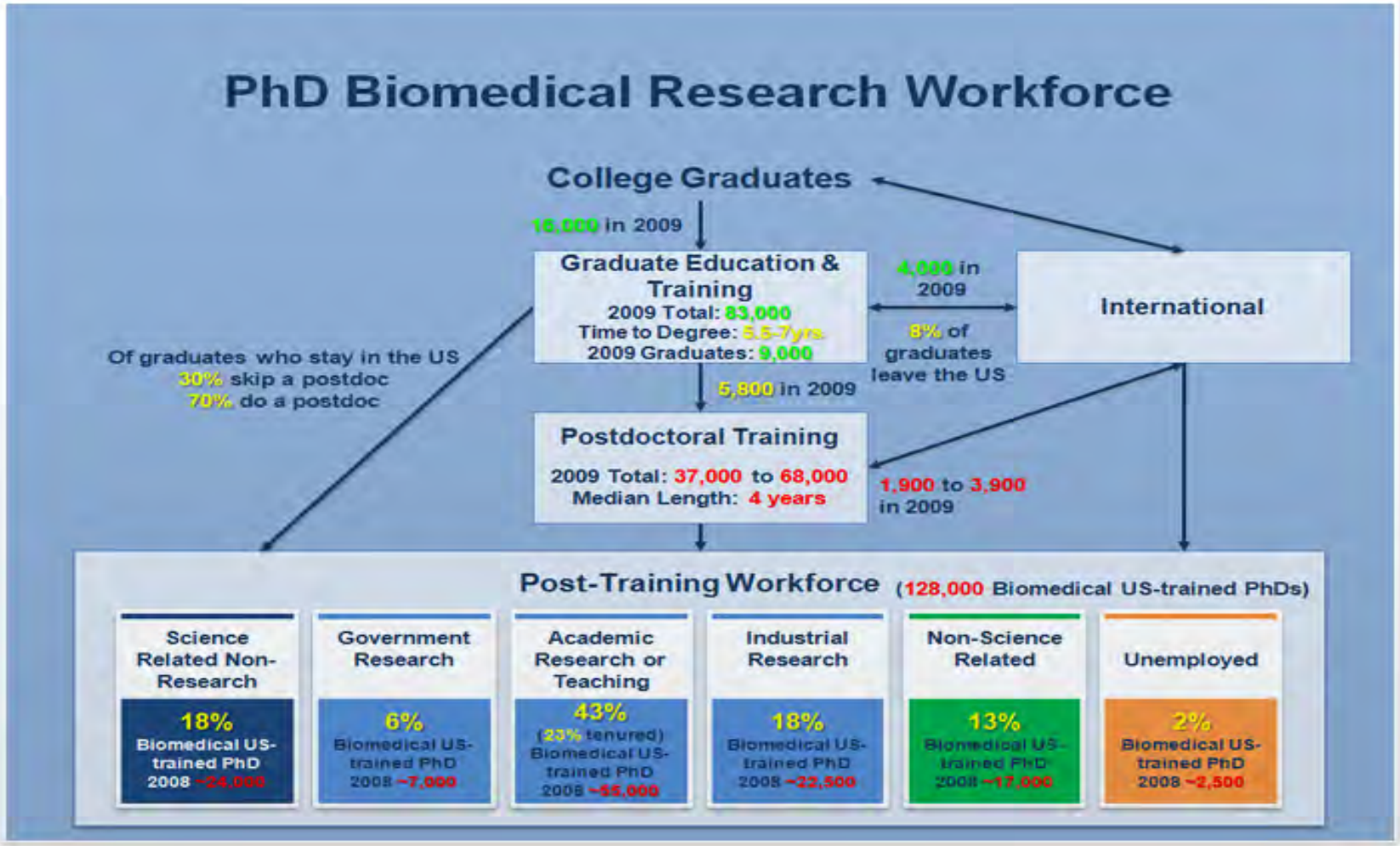
Factors Influencing Emergence and Growth of Professional Doctorates -1

Employability of doctoral graduates and critique of the PhD

Concern that modern PhD is

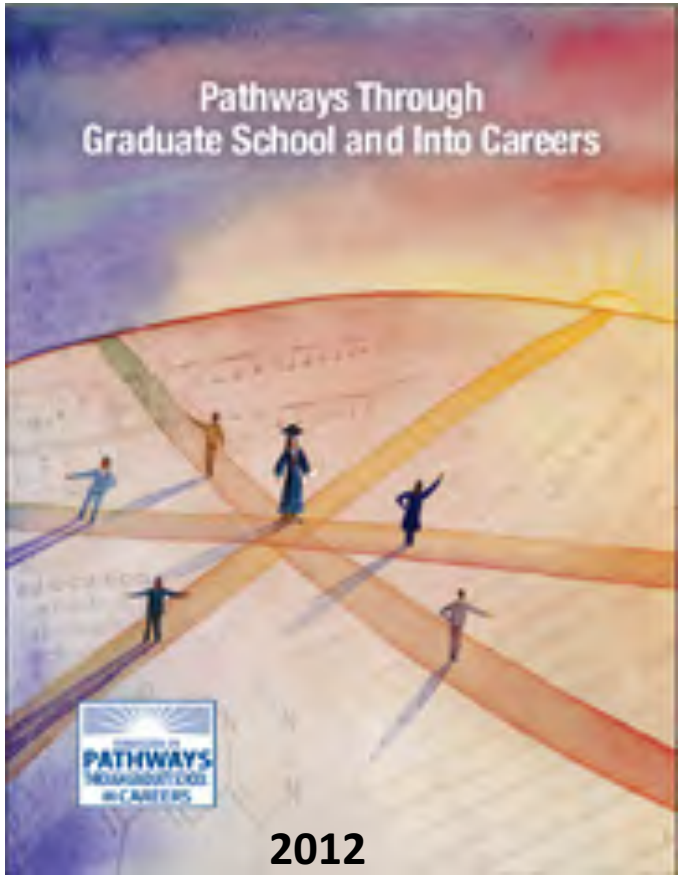
- Too narrowly focused on research, lacks transferable skills
- Lacks multidisciplinary orientation
- Lacks appropriate collaborative work and
- Lacks key skill sets preparing graduates for employment in areas outside academia

Most PhDs Do Not End Up in Academia After Graduation!



Sally Rocker - https://nexus.od.nih.gov/all/2012/06/22/so-what-does-the-biomedical-research-workforce-look-like/

CGS Leadership Role in Urging Upgrades in PhD Training to Reflect Job Realities



Universities

- Track career outcomes and job placement information for graduate students.
- Broaden the focus of graduate education to include development of professional skills

Employers

- Enhance and expand collaborative relationships.
- Provide opportunities for graduate students and graduate faculty.
- Provide support for employees to pursue graduate studies while employed.

Factors Influencing Emergence and Growth of Professional Doctorates - 2

Growth of the knowledge economy and the changing role of higher education

Competitive work pressures

- Impetus of technological changes; more demand for certain skill sets in labor market – need for greater link between education, knowledge and economy
- Need to diversify and create more professionally relevant programs, develop work-based learning, and foster reflective practice.
- Expansion of Professional Doctorates have mirrored the birth of the 'entrepreneurial' university

F. Chiteng Kot and D.D. Hendel , Studies in Higher Education, 2012

Factors Influencing Emergence and Growth of Professional Doctorates - 2

Growth of the knowledge economy and the changing role of higher education

"Entrepreneurial University"

Degree programs blend academic knowledge with professional knowledge, and discovery with application.

Rooted in reflective practice, combine value of good practice and collaboration between the university and external stakeholders (professions and industry).

Scott, D., A. Brown, I. Lunt, and L. Thorne. 2004. *Professional doctorates: Integrating professional and academic knowledge.* Buckingham: Open University Press.

Factors Influencing Emergence and Growth of Professional Doctorates - 3

Governmental involvement and public policy

- Australia and UK – strong government policies have influenced establishment of professional doctorates
- Canada – Government pressure led more to rethinking and improvement of PhD
- USA – accrediting body and professional association influences

Accrediting Bodies Play a Major Role in Growth of ProDs

Changing entry requirements have influenced the multiplication of US professional doctorate programs

Physical Therapy accredited DPT programs

- 2001 - 8
- 2002 - 49
- 2017 – 228

Audiology accredited AuD programs

- 2004 – 20
- 2017 – 71

Occupational Therapy 2017

17 OTD level schools accredited,

178 Masters level

Labelle 2004

Debate about Professional Doctorates

Is Pro D expansion justified?

- Is expansion due to rapid growth of knowledge and increasing market demand for professionals, or the result of degree inflation and mission creep?
- Will the Pro Ds 'erode the integrity and primacy of the research doctorate' in USA higher education?
- Some critics recognize need, but express concerns about loose manner in which some of these programs are established.

Bollag 2007; Dorsey 2006

Implications for ProDs in Faculty Roles

Focus of academic program and specific faculty position must be considered when making faculty hires.

Advanced professional knowledge and experience are becoming increasingly valuable for many master's level program, which are often "professional" in nature themselves.

Tenure and promotion guidelines must be developed to reflect this difference.

- In general, PhDs have not amassed significant professional experience, and academia would rarely penalize them for this.
- In general, ProDs have not been trained to conduct and publish original research, so they should not be expected to do so.

Many universities have two tracks: Professional/Clinical and Academic

- At MSU, professional/clinical faculty can be promoted: Instructor…. Professor, but not tenured.

Scholarship: Tenure-Track vs. Clinical at MSU

CRITERIA	TENURE	ASSISTANT TO ASSOCIATE	ASSOCIATE TO FULL
Scholarly works* which may include peer-reviewed publications and presentations as well as books/book chapters and invited publications:	Total of 10 **	Total of 10	Total of 10 Additional
Peer-reviewed articles	Required: minimum of 3, on 2 of which individual must be first author ***	Required: minimum of 3, on 2 of which individual must be first author ***	Required: minimum of 3 additional (since previous promotion), on 2 of which individual must be first author ***
Book Chapters and Invited Presentations and Publications	Encouraged	Encouraged	Encouraged
Peer-reviewed presentations	Encouraged	Encouraged	Encouraged
Expand and transmit knowledge in area(s) of expertise[1]	Required	Required	Required: culmination of sustained work over period of time
Impact on the field	Encouraged	Encouraged	Required
Grants	Required: submit 1 grant for internal or external funding	Required: submit 1 grant for internal or external funding	Required: submit external funding from at least 1 grant proposal
Involvement of students in the research process	Required	Required	Required

PROFESSIONAL PRODUCTIVITY/RESEARCH 4.3.4	**Clinical Instructor to Clinical Assistant Professor**	**Clinical Assistant Professor to Clinical Associate Professor**	**Clinical Associate Professor to Clinical Full Professor**
1. Contributes knowledge to discipline: Translates new knowledge into clinical practice and outcomes and/or translates clinical practice into new knowledge.	**Required:** Evidence of communication of outcomes or new knowledge to peers through conference presentations, workshops, or preparation of documentation related to program accreditation.	**Required:** Evidence of communication of outcomes or new knowledge to peers through conference presentations, publications, workshops, or preparation of documentation related to program accreditation.	**Required:** Evidence of communication of outcomes or new knowledge to peers through conference presentations, publications, workshops, or preparation of documentation related to program accreditation.
		Encouraged Participation on thesis committees and/or co-direct student research	**Required:** Submission of peer-reviewed publications or sponsored research or contracts.
			Encouraged: research in clinical settings (may be collaborative).
			Required: National presentation
2. Application of clinical expertise to provide expert service to the local and professional community.	**Encouraged**: Evidence of positive outcomes within the practice setting.	**Required:** Evidence of at least 1 example of positive outcomes within the practice setting (e.g., field assessments, awards by professional peers, surveys).	**Required**: Evidence of at least 2 examples of positive outcomes within the practice setting (e.g., field assessments, awards by professional peers, surveys).
3. Transmission	**Encouraged:** submission of internal or external grant (may be collaborative).	**Encouraged:** submission of internal or external grant (may be collaborative).	**Required:** submission of internal or external grant (may be collaborative).
4. Involvement of students	**Encouraged:** Evidence of student's involvement in the clinical research process.	**Encouraged:** Evidence of student's involvement in the clinical research process.	**Encouraged:** Evidence of student's involvement in the clinical research process.

Teaching: TT Faculty

CRITERIA	TENURE**	ASSISTANT TO ASSOCIATE	ASSOCIATE TO FULL
Documentation of student progress toward course knowledge and skills (e.g. undergraduate assessment, graduate student competencies).	Required	Required	Required
Student evaluations of 2.5 (1 to 5 scales with one being the best) or better; respond to student feedback as written on the evaluations	Required	Required	Required
Peer review of teaching (didactic presentation) to document a positive learning environment	Required – A total of 3 across the probationary period	Required – A total of three required.	Required -3 additional since promotion to Associate Professor.
Peer review of course syllabi to document sufficient depth & breadth of content	Required – A total of 3 across the probationary period.	Required -A total of three required.	Required -3 additional since promotion to Associate Professor.
Evidence of within and interdisciplinary collaboration in teaching (e.g. guest lectures)	Encouraged	Encouraged	Encouraged
Evidence of accessibility via multiple avenues for student consultation	Required	Required	Required
Fulfillment of student advisement responsibilities (if assigned)	Required	Required	Required
Evidence of experiential learning	Encouraged	Encouraged	Encouraged
Evidence of promoting university Public Affairs	Required	Required	Required
Evidence of use of technology to enhance student learning	Encouraged	Encouraged	Encouraged
Evidence of teaching that integrates academic and clinical knowledge	Encouraged	Encouraged	Encouraged

Clinical Faculty

CLINICAL EDUCATION 4.3.2	Clinical Instructor to Clinical Assistant Professor	Clinical Assistant Professor to Clinical Associate Professor	Clinical Associate Professor to Clinical Full Professor
4.3.2. (1) *Developing educated persons who are competent clinical professionals.*			
a. Clinical faculty members meet this goal when they demonstrate their effectiveness in cultivating students' knowledge base and skills within a specific discipline including competencies for professional practice.	**Required**: Course syllabi reflect sufficient depth & breadth of content; adheres to faculty handbook, and required accreditation standards. **Required**: Peer review of clinical instruction documents a positive learning environment that develops critical thinking and improves student's written and oral communication	**Required**: Course syllabi reflect sufficient depth & breadth of content; adheres to faculty handbook and required accreditation required. **Required**: Peer review of clinical instruction documents a positive learning environment that develops critical thinking and improves student's written and oral communication	**Required**: Course syllabi reflect sufficient depth & breadth of content; adheres to faculty handbook and required accreditation standards. **Required**: Peer review of clinical instruction documents a positive learning environment that develops critical thinking and improves student's written and oral communication
b. Faculty should strive to make explicit the relationship between the general education curriculum and various disciplinary curricula so students can integrate their acquired knowledge and skills for lifelong application.	**Required**: Documentation of discipline-specific student acquisition of knowledge and skills; evidence of student use of critical thinking, problem solving, and appropriate communication skills	**Required**: Documentation of discipline-specific student acquisition of knowledge and skills; evidence of student use of critical thinking, problem solving, and appropriate communication skills	**Required**: Documentation of discipline-specific student acquisition of knowledge and skills; evidence of student use of critical thinking, problem solving, and appropriate communication skills
c. Maintenance of appropriate professional credentials and evidence of continuing professional development are required to meet this goal.	**Required:** Maintenance of appropriate professional credentials and evidence of continuing professional development.	**Required:** Maintenance of appropriate professional credentials and evidence of continuing professional development.	**Required:** Maintenance of appropriate professional credentials and evidence of continuing professional development.
4.3.2(2). *Exceptional Modes or Qualities of Clinical Education*			
a. Outstanding performance as a clinical educator	Required: Student evaluation ratings of 2.5 of better (1 to 5 scale with 1 being the best); responds to student feedback as written on the evaluations	Required: Student evaluation ratings of 2.5 of better (1 to 5 scale with 1 being the best); responds to student feedback as written on the evaluations	Required: Student evaluation ratings of 2.5 of better (1 to 5 scale with 1 being the best); responds to student feedback as written on the evaluations
b. Experiential learning	**Required:** Evidence of experiential learning components in courses.	**Required:** Evidence of experiential learning components in courses.	**Required:** Evidence of experiential learning components in courses.
c. Accessibility	**Required:** Evidence of increased accessibility through activities such as guest lectures, continuing education offerings, or workshops. **Required**: Evidence of multiple avenues for student consultation with faculty.	**Required**: Evidence of increased accessibility through activities such as guest lectures, continuing education offerings, or workshops. **Required:** Evidence of any combination of collaboration, exceptional critical thinking and learning experiences, or development of clinical self-learning modules. **Required**: Evidence of multiple avenues for student consultation with faculty. **Required**: Evidence of presentations at local, state, or regional conferences to share effective clinical strategies or present an area of clinical expertise.	**Required**: Evidence of increased accessibility through activities such as guest lectures, continuing education offerings, or workshops. **Required:** Evidence of any combination of collaboration, exceptional critical thinking and learning experiences, or development of clinical self-learning modules. **Required:** Evidence of multiple avenues for student consultation with faculty. **Required:** Evidence of presentations at state, regional and/ or national conferences to share effective clinical strategies or present an example of clinical expertise.
d. *Diversity: Special efforts to use diversity in broadening students' perspectives and to develop cultural sensitivity*	**Required**: Examples of being open and flexible in the selection, administration, and interpretation of diagnostic and/or treatment regimens. **Encouraged:** Inviting guest speakers who offer diverse viewpoints. **Encouraged**: Establishing clinical experiences/ externships in diverse settings, or providing exposure to clinical populations with special needs.	**Required**: Examples of being open and flexible in the selection, administration, and interpretation of diagnostic and/or treatment regimens. **Encouraged:** Inviting guest speakers who offer diverse viewpoints. **Required:** Establishing clinical experiences/ externships in diverse settings, or providing exposure to clinical populations with special needs.	**Required: Examples of being open and flexible in the selection, administration, and interpretation of diagnostic and/or treatment regimens**. **Encouraged:** Inviting guest speakers who offer diverse viewpoints. **Required:** Establishing clinical experiences/ externships in diverse settings, or providing exposure to clinical populations with special needs.

Starting a ProD program

Sometimes we don't have a choice!

Required Entry-Level Doctorates

- Determined by the professional association and required by accreditor
- Usually takes a few years from new position to expected implementation
- Stability of recommendation
  - Things can change– case in point: DNP; Sometimes they don't: AuD, DPT

Voluntary" Professional Doctorates

- Start with faculty support.. if it's not there, everything else is moot.
- Consistency with university mission
- Market demand
- Availability of resources
- **Return on Investment for students**

State "Politics"

2005: State statutes re degree limitations

2017: New coordinating board process for review

- Very impressive move by MDHE and CBHE that allows for staff and routine reviews that can require as little as a month for a decision. Missouri rocks!!
- New doctoral programs require a *Comprehensive Review,* at least 8 months
- Evidence: (a) collaboration explored? (b) consistent with CBHE's "Blueprint for Higher Education, (c) institutional capacity, (d) need for program, (e) plan to meet articulated workforce need.
- Review done by MDHE staff and "appropriate and qualified representatives from other institutions"
- Limits on number of proposal considered in a year from all institutions (including 2 year): 2017-18 (3) and 2018-19 (5)

Summary

Professional doctorates have emerged as a result of many factors within the academia and also external factors

There can be considerable variation in research and transferable skills training among ProD and PhD

Important to match expectations of faculty with their background and training.

Many institutions have further focused their research training degree on the PhD in recent years

Important to consider long term relevance, market demand and accreditation requirements when introducing a new ProD

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J and D

Questions?

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