21st Century Health Care Leadership: Confronting Challenges for Innovation with a Modern Curriculum - Towards a Competency Based Approach

Results of a Survey of Academics, CEOs, Founders/Innovators, Heads of Health Innovation Centers

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Survey Methodology

- Multi round Delphi (round 1 complete, round 2 coming ….)
- Online survey
- 240 participants representing different segments
- Quantitative + Qualitative survey to elicit relative importance of Competencies, Pedagogical Approaches and Modes of Program Delivery
- Built on seminal work on entrepreneurial competencies (Pillay et al) as well as Herzlinger survey (2012) and White Paper of last meeting…see next 3 slides

Competencies

1. Ability to recognize an opportunity
2. Ability to access the feasibility of an opportunity
3. Risk Management/Mitigation
4. Ability to convey a compelling vision
5. Tenacity and perseverance
6. Creativity problem solving/ Imaginativeness
7. Ability to leverage resource/bootstrapping
8. Guerilla skills/ use of unconventional approaches
9. Ability to maintain focus yet adapt
10. Resilience
11. Design Thinking: Value creation with new products, services and business
12. Self-efficacy/Confidence
13. Building and using networks
14. Change management
15. Understanding of healthcare systems
16. Cross disciplinary knowledge
17. Information Management
18. Understanding of behavioral economics
19. Interdisciplinary team work and collaboration

Pedagogical Approaches

1. Traditional lectures
2. Case studies of successes
3. Case studies of failures
4. Project based learning
5. Mentoring by industry professionals
6. Field based experience
7. Global experience
8. Interactive learning
9. Team based contests
10. Continuing education

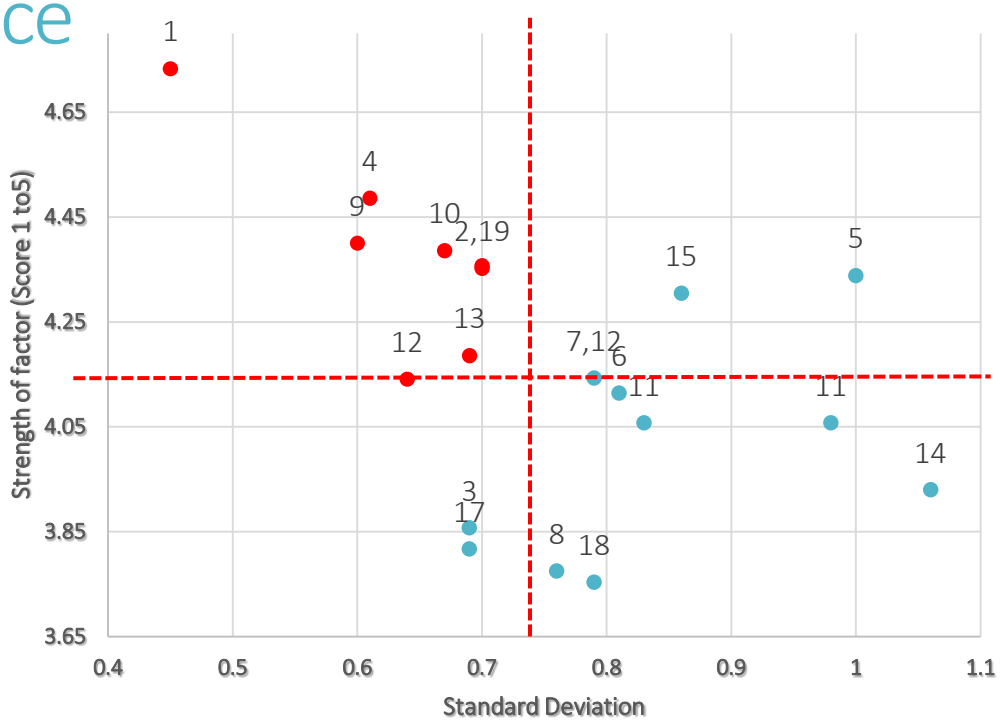
Modes of Program Delivery

1. Traditional in class
2. Virtual
3. In context

Respondent Characteristics

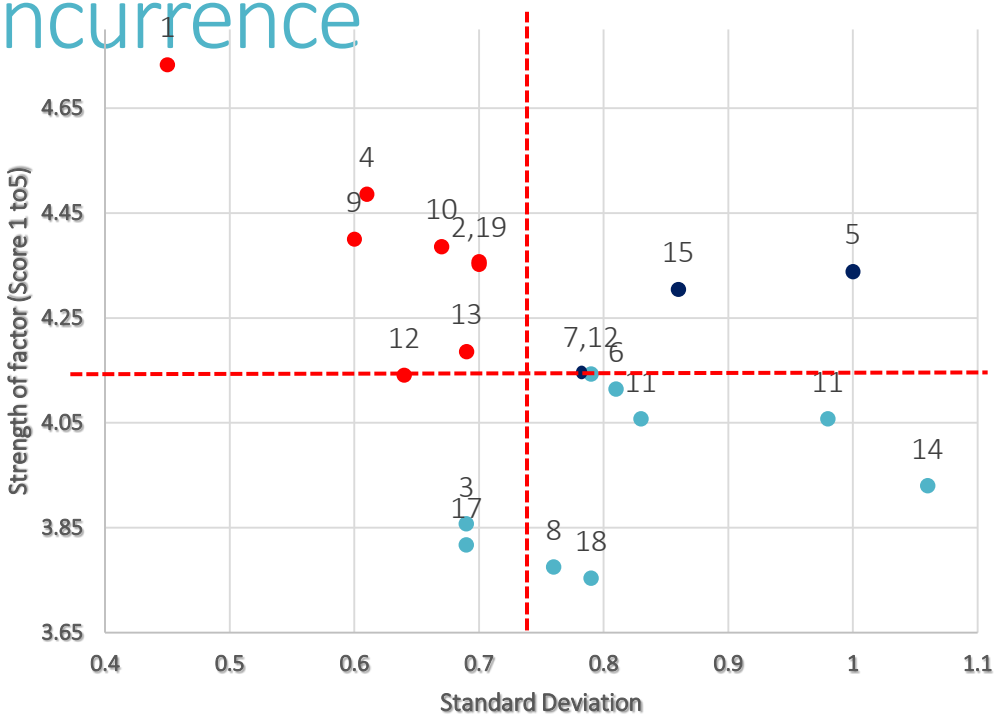
- 81 useable responses : 34 %
- Academics : 56% - HCM 36%; BUS 26%, ENT/INN 11%
- Business: 33% - 34% Entrepreneurs/innovators
- Other: 11% - Gov., NPO, VC (40%)

Competencies that show High Importance & High Concurrence



1	Ability to recognize an opportunity
4	Ability to convey a compelling vision
9	Ability to Maintain Focus Yet Adapt
10	Resilience
19	Interdisciplinary team work and collaboration
2	The ability to assess the feasibility of an opportunity
13	Building and Using Networks
12	Self-Efficacy/Confidence

Competencies that show High Importance & lower Concurrence



5 Tenacity and perseverance

15 Understanding of healthcare systems

7 Ability to leverage resource/bootstrapping

12 Self-efficacy/Confidence

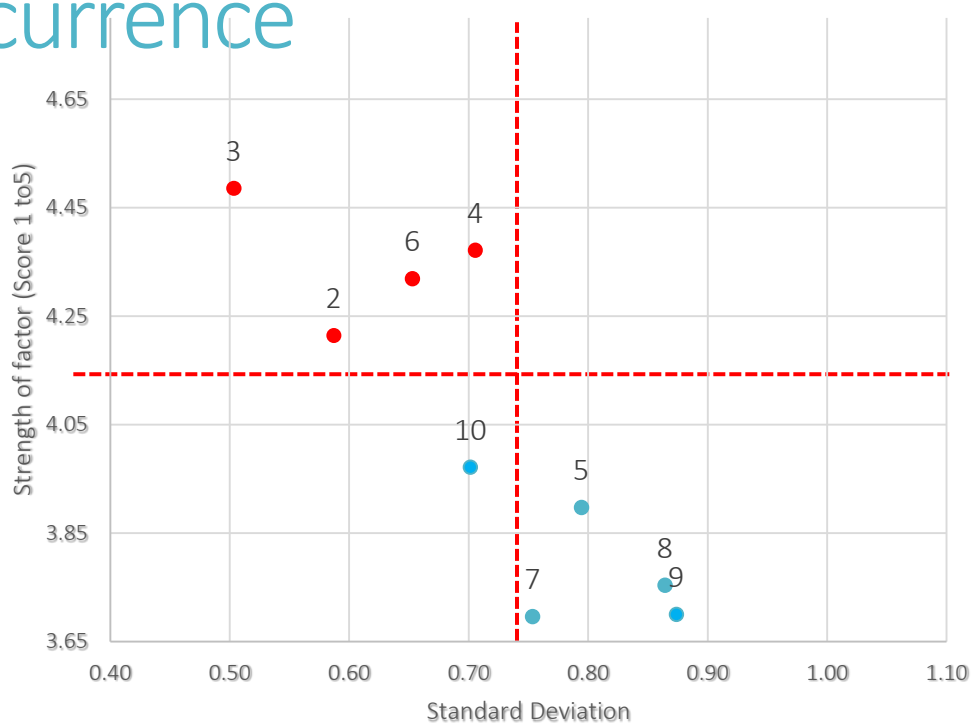
Innovation & Entrepreneurship Competencies - Overall

Factor	Mean	Median	Mode	Std. dev.
1. Ability to recognize an opportunity	4.73	5	5	0.45
2. Ability to access the feasibility of an opportunity	4.35	4	4	0.7
3. Risk Management/Mitigation	3.86	4	4	0.69
4. Ability to convey a compelling vision	4.49	5	5	0.61
5. Tenacity and perseverance	4.34	5	5	1
6. Creativity problem solving/ Imaginativeness	4.11	4	4	0.81
7. Ability to leverage resource/bootstrapping	4.14	4	4	0.79
8. Guerilla skills/ use of unconventional approaches	3.77	4	4	0.76
9. Ability to maintain focus yet adapt	4.40	4	4	0.60
10. Resilience	4.39	4	5	0.67

Innovation & Entrepreneurship Competencies -Overall

Factor	Mean	Median	Mode	Std. dev.
11. Design Thinking: Value creation with new products, services and business	4.01	4	4	0.98
12. Self-efficacy/Confidence	4.14	4	4	0.64
13. Building and using networks	4.19	4	4	0.69
14. Change management	3.93	4	4	1.06
15. Understanding of healthcare systems	4.30	4	5	0.86
16. Cross disciplinary knowledge	4.06	4	4	0.83
17. Information Management	3.86	4	4	0.69
18. Understanding of behavioral economics	3.75	4	4	0.79
19. Interdisciplinary team work and collaboration	4.36	4	5	0.70

Pedagogical approaches: High Relevance & High Concurrence



3 Case studies of failures

2 Case studies of successes

6 Field based experience

4 Project based learning

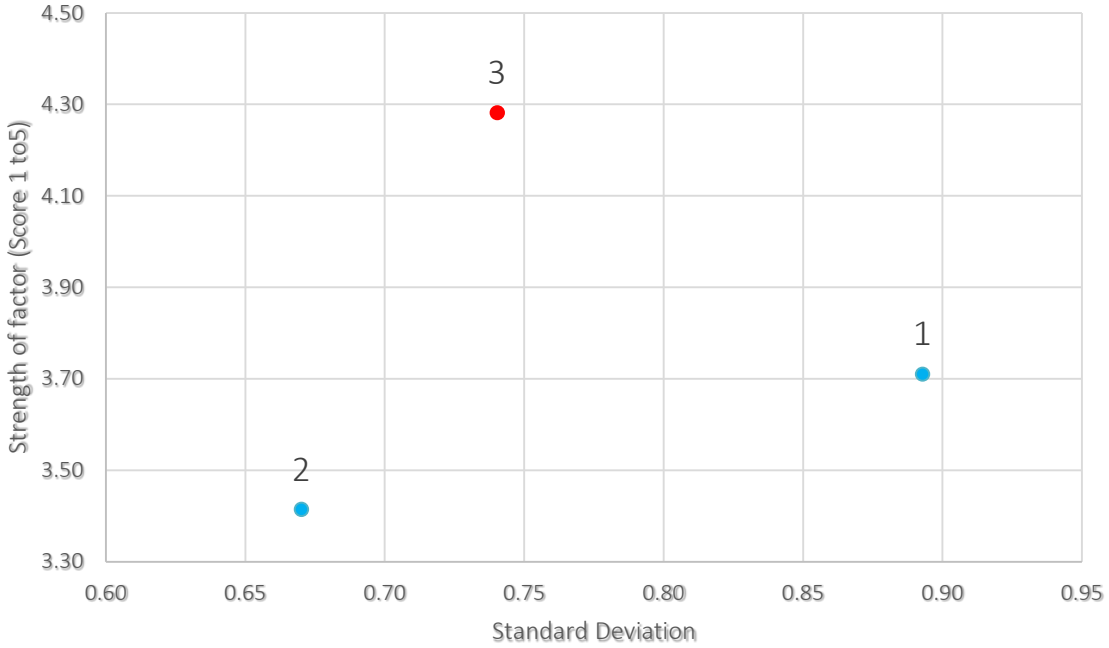
Pedagogical Approaches –Overall

Factor	Mean	Median	Mode	Std. dev.
1. Traditional lectures	2.87	3	3	0.92
2. Case studies of successes	4.21	4	4	0.59
3. Case studies of failures	4.49	4	4	0.5
4. Project based learning	4.37	4	5	0.71
5. Mentoring by industry professionals	3.9	4	4	0.79
6. Field based experience	4.32	4	4	0.65
7. Global experience	3.7	4	4	0.75
8. Interactive learning	3.75	4	4	0.86
9. Team based contests	3.7	4	4	0.87
10. Continuing Education	3.97	4	4	0.7

Modes of delivery - Overall

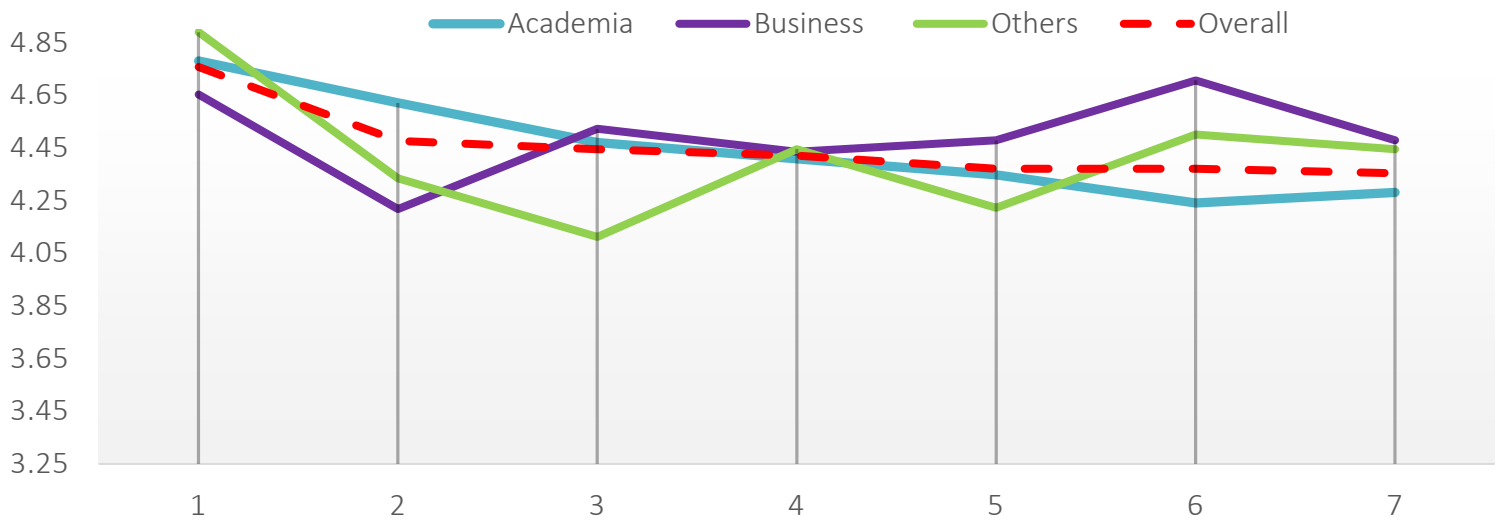
Factor	1. Traditional in class	2. Virtual	3. In context
Mean	3.71	3.41	4.28
Median	4	3	4
Mode	4	3	4
Std. dev.	0.89	0.67	0.71

Modes of delivery: High importance & High Concurrence



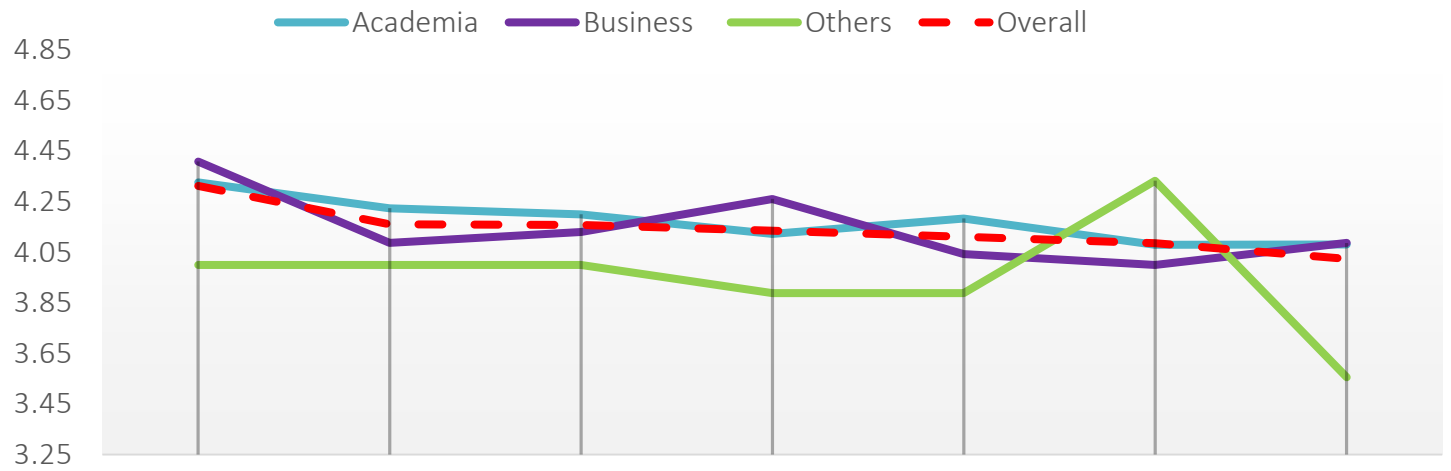
3. In Context
2. Virtual
1. Face to face (Classroom)

Competencies



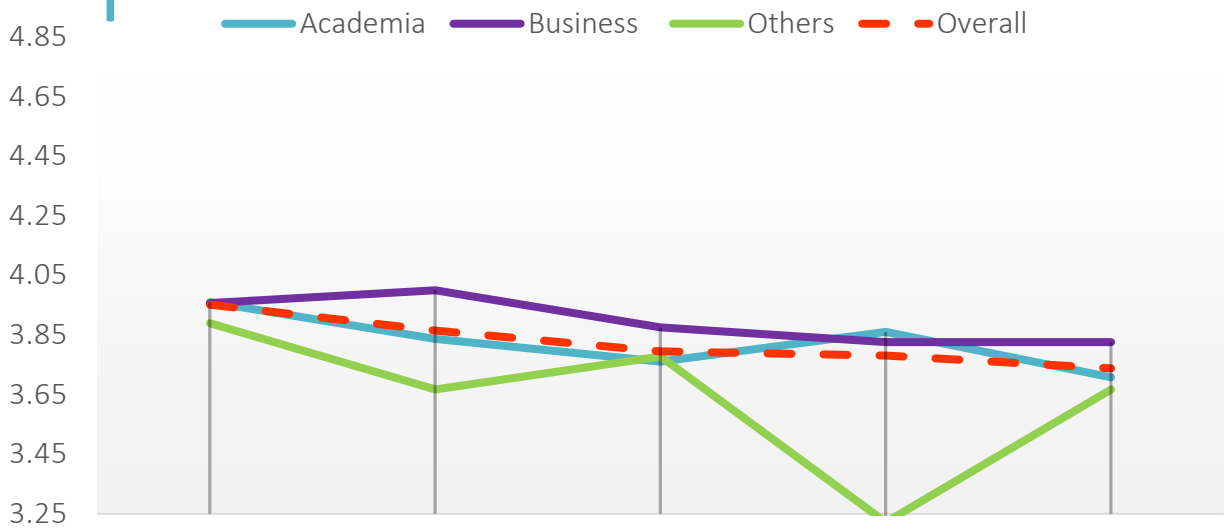
Factor	1. Ability to recognize an opportunity	4. Ability to convey a compelling vision	10. Resilience	9. Ability to maintain focus yet adapt	19. Interdisciplinary team work and collaboration	5. Tenacity and perseverance	2. Ability to assess the feasibility of an opportunity
Mean - Overall	4.76	4.48	4.44	4.42	4.37	4.37	4.35
Mean - Academia	4.78	4.62	4.47	4.41	4.35	4.24	4.28
Mean- Business	4.65	4.22	4.52	4.43	4.48	4.71	4.48
Mean - Others	4.89	4.33	4.22	4.44	4.22	4.50	4.44
SD - Overall	0.45	0.61	0.67	0.60	0.70	1.00	0.70

Competencies



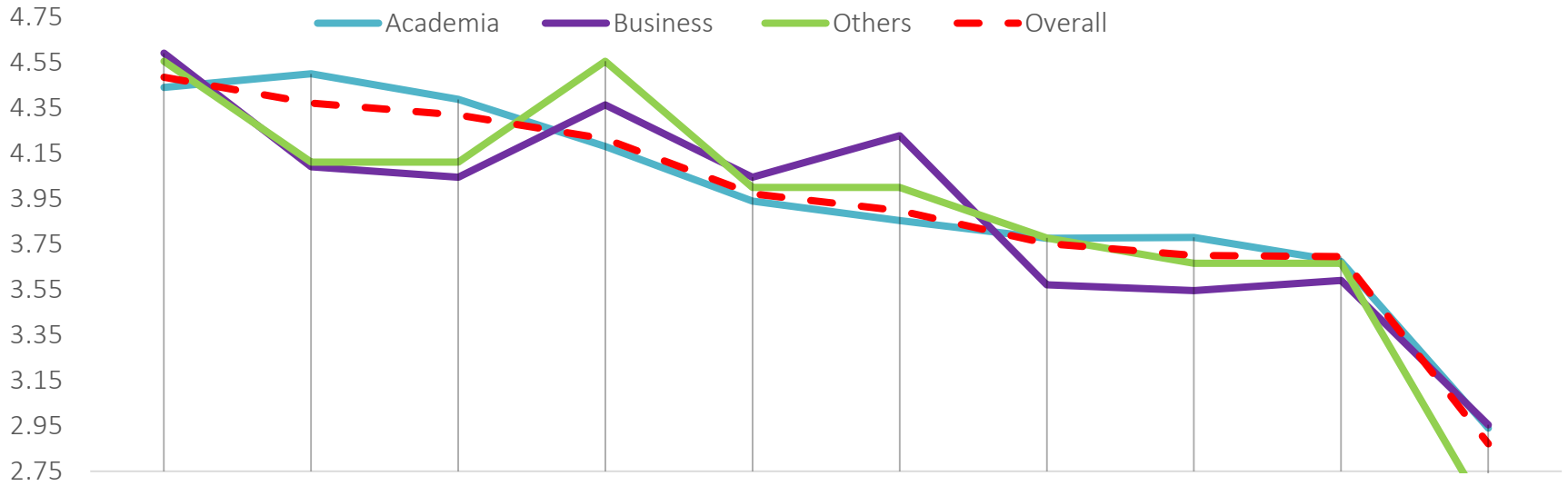
Factor	15. Understanding of healthcare systems	13. Building and using networks	12. Self-efficacy/Confidence	6. Creativity problem solving/ Imaginativeness	7. Ability to leverage resource/bootstrapping	11. Design Thinking: Value creation with new products, services and business	16. Cross disciplinary knowledge
Mean - Overall	4.31	4.16	4.16	4.14	4.11	4..09	4.02
Mean - Academia	4.33	4.22	4.20	4.12	4.18	4.08	4.08
Mean- Business	4.41	4.09	4.13	4.26	4.04	4.00	4.09
Mean - Others	4.00	4.00	4.00	3.89	3.89	4.33	3.56
SD - Overall	0.86	0.69	0.64	0.81	0.79	0.98	0.83

Competencies



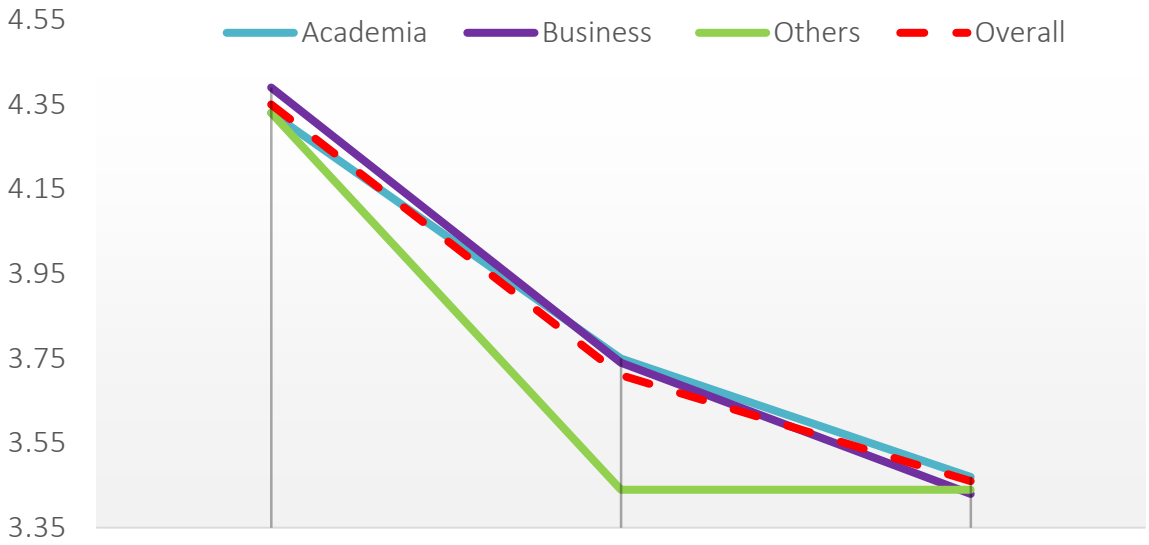
Factor	14. Change management	3. Risk Management /Mitigation	8. Guerilla skills/ use of unconventional approaches	17. Information Management	18. Understanding of behavioral economics
Mean - Overall	3.95	3.86	3.80	3.78	3.74
Mean - Academia	3.96	3.84	3.76	3.86	3.71
Mean- Business	3.86	4.00	3.88	3.83	3.83
Mean - Others	3.89	3.67	3.78	3.22	3.67
SD - Overall	1.06	0.69	0.76	0.69	0.79

Pedagogical Approaches



Factor	3. Case studies of failures	4. Project based learning	6. Field based experience	2. Case studies of successes	10. Continuing education	5. Mentoring by industry professionals	8. Interactive learning	9. Team based contests	7. Global experience	1. Traditional lectures
Mean - Overall	4.49	4.37	4.32	4.21	3.97	3.90	3.75	3.70	3.70	2.87
Mean - Academia	4.44	4.50	4.39	4.18	3.94	3.85	3.78	3.78	3.67	2.94
Mean- Business	4.59	4.09	4.05	4.36	4.05	4.23	3.57	3.55	3.59	2.95
Mean - Others	4.56	4.11	4.11	4.56	4.00	4.00	3.78	3.67	3.67	2.56
SD - Overall	0.50	0.71	0.65	0.59	0.70	0.79	0.86	0.87	0.75	0.92

Modes of Delivery



Factor	3. In context	1. In- class	2. Virtual
Mean - Overall	4.35	3.71	3.46
Mean - Academia	4.33	3.75	3.47
Mean- Business	4.39	3.74	3.43
Mean - Others	4.33	3.44	3.44
SD - Overall	0.74	0.89	0.67

Competency List - Qualitative Responses

- Uncomfortable with the status quo ,willingness to surround yourself with people smarter than you
- A strong customer/client/patient orientation. Listening & observational skills (esp. MDs). (For MDs) Ability to work as a team member (vs. leader).
- Resilience and a healthy dissatisfaction with status quo ; create competencies in financial analysis,
- Positive mental attitude
- Ability to know of past successes / failures and to know approaches taken by other competitors. When relevant, knowledge o f past patents and understanding of Intellectual property law
- Humility, integrity, listening skills, clinical knowledge
- transforming power o f information techno logy. This could be described as health systems informatics and distinct from medical or nursing informatics
- Experience from other industries
- Ethical values: what is important to people, what is offering real value understanding technological developments
- Empathy
- Flexibility, knowledge of health systems
- Create and engage community as healthcare delivery shifts. The complexity of healthcare and the impact of change is far beyond the boundaries of traditional providers. Truly effective leaders must be able to synergistically involve others in not only the solutions but to learn and innovate collaboratively
- Understanding cultural transformation within the system. Nimble learning, cross disciplinary collaboration, and engaged leadership are all components of a culture poised to impact positive change

Competency List - Qualitative Responses

- Being able to listen to others
- Modesty, humbleness
- To me things I marked neither important or unimportant are very important but I have know how to delegate, access rather than knowing myself. Perhaps a bigger competency is knowing what you know and what you don't know and an openness to learning or attaining knowledge and to delegate
- Navigate successfully in the highly regulated environment, and spotting of opportunities.
- Broad knowledge across all o f the relevant disciplines and a laser focus on execution and knowing when to abandon
- Organizational behavior Improvement thinking and performance improvement . Change management , Working with diverse cultures
- Systems thinking first and foremost; optimism
- Accountability ... be accountable and know how to hold others accountable.
- Pattern recognition, imagination
- Integrity and a sense o f fairness
- Understand processes
- Outward look and ability to assess unmet and untapped customer value. Capacity to imagine the non-customer.
- Leadership, communication skills
- Operations management as a strategic approach

Pedagogy List -Qualitative Responses

- Networking experiences (other than mentoring). Reading. Grand rounds for entrepreneurship - looking at what teams did and picking it apart for strengths and weaknesses.
- Fostering and utilizing the innovation eco system: entrepreneur centers, local forums, meetings with innovators at every level, focused but informal collaborative networks (e.g., through Google+)
- Online opportunities, distance learning/tele-education with international opportunities
- Case studies o f innovations in other industries. The focus should be on how systems and organizations are transformed.
- The problem of using mentors and case studies of successes from the health field is that most successes are not focused on disruptive change but on maintaining the status quo .
- Problem based learning, collaborative learning
- Being disciplined about time for reading, reflecting,
- Bringing industry professionals in to the educational process to help mentor can be effective. However, I know and have met plenty of industry professionals that would do more harm than good (especially coming fro m the health plan ranks). So effective screening o f professionals is critical for a mentoring pro gram to be effective.
- Analyzing case studies; formalized field experiences; involvement and interaction with successful practitioners.

Pedagogy List - Qualitative Responses

- Deep case studies of failures can be even more important than successes as many times success is a combination of luck and avoiding known modes of failure. In other words, the modes of failure are more certain, predictable and teachable (and therefore avoidable) than the routes to success.
- Community-based learning -- different than project or field experiences -- knowledge of organization and understanding of reciprocity and mutuality
- Depends on the student. What is taught is less important than what is learned. Technique is what is used until the teacher arrives. (Parker Palmer) More important than the technique itself, is alignment between teacher and student such that they become learners and teachers together.
- Anything student-centered and "work-like" is important. Should develop students' abilities to teach others
- Interdisciplinary teams
- Secondary strategies enabling professionals to learn in other stakeholder settings based on focused assignments. Embedded learning.

Revised mode of delivery list based on qualitative responses

- Don't overemphasize virtual at this point. We don't know what really works, and virtual networking does not seem to work the same or replace the in-person kind.
- Obviously, learning can be done in variety of environments. Realistically, very few students can learn to the level necessary online as can be achieved in person and in context (i.e. in the healthcare environment). Thus, the ratings.
- Multi-media channels for getting to the learner on many levels and using resources that are clever and innovative. Vine; ThingLink; open course ware; etc.
- I believe Mixed mode is the best way (class and virtual)
- Interfacing with start-up companies; internships; current readings
- I think it is the balance that counts. Many executive edu. students find brief " on the college campus" critically important. The change in venue makes them think differently and
- The formation o f teams for meaningful projects confers the same advantage as in other executive edu. programs. What is different, I think, it so bring in "non-student" team
- Members to specific projects (e.g., software engineers). It is getting the right fit among the resources, the students, and realistic programmatic goals.
- I would add in a non-health care business environment - one that is innovative with a visionary leader.
- Cohort model -- whether in traditional o r virtual settings. Hard to teach innovation didactically; needs to be experiential and that is best accomplished in a setting that
- facilitates sharing among individuals bringing to bear diverse perspectives.

Mode of Delivery - Qualitative Responses

- Need and use of modes of delivery vary with people's personal styles. I prefer a multi modal approach and like to read, prepare, think about something before I participate in a lecture or group activity. But others feel and learn differently.
- I think getting people together, in a room, and using the case method with an engaging protagonist present is one of the most effective ways to deliver and train potential innovators.
- A combination of traditional in class and online lectures.
- Learning from the individuals involved rather than third parties (no matter ho w academically qualified) is critical. But they have to possess the ability to self-reflect.
- A combination of delivery modes would seem optimal
- A mix of what is listed above is really what's required -- would be more effective to rate or list in order of curriculum content
- Hybrid use o f classroom, virtual and context (embedded) or some combination of these may be the most effective way to deliver education for motivated learners.
- a mix of the above: different skills and aspects need a different delivery method
- In context but also in non healthcare environments. Competition these days is multiple and cross sector.
- For Executives: Weekend for fly-in format, hybrid 2 week summer flowed by web-based course with group virtual groups, evening cohort classes to enable concomitant academic/industry experience.

Using the Competency and Pedagogical Model to Build a Program

Master of Science (Healthcare Innovation)

Fall 2015-Launch

Using the Competency and Pedagogical Model to Build a Program

Semester	Course	Description
Semester I	Introduction to health services system	Regulatory and fiscal mechanisms, functions. The Danish health services system in comparative perspective
	Introductory course to business/health economics	Introduced via examples from health innovation
	Implementation Science	Organizational Change
	The economics and organization of health innovations	Incentives; opportunities; economics of knowledge; technology dynamics. Systems of innovation. Application of general analysis of innovation to the specifics of the health sector. Incl. a 1-week practicum with hospitals, GP's medico firms etc.
Semester II	Clinical process innovation	Lean health care
	Primary health care innovation	E-Health
	Drivers and structures in healthcare I	The current value chains of healthcare and their tensions; an industry perspective on the sector. Converging exponential technologies impacting on health care. Global change in business models of health services. Herzlinger's model
	Drivers and structures in healthcare II	

Using the Competency and Pedagogical Model to Build a Program

Semester	Plan of Study
Semester III	Concentration
	HIT – 1st Parallel Concentration
	4 x courses. One course must be introductory and mandatory for all HI students.
	Experiential project required within this Concentration
Semester IV	Thesis on Health Innovation

Thank you!!

Questions??