Innovative design and teaching approaches of an entrepreneurship curriculum

JUNE 15, 2022

Entrepreneurship Pedagogy Track

Session Outline

What's on the agenda?

Getting to know who is in the room: Introductions

Entrepreneurship in the classroom: Methods, Techniques, and Outcomes

Everyone Loves a Problem: The Use of Design Thinking to Spark Innovative Thought

Questions and Key Takeaways

Entrepreneurship Pedagogy Track

Introductions:

Facilitator
Jewel Thompson,
Assistant Lecturer, Ashesi University

Facilitator
Sandra Tshenyego,
Assistant Dean, Office of Quality Management,
Botho University, Botswana

Entrepreneurship Pedagogy Track

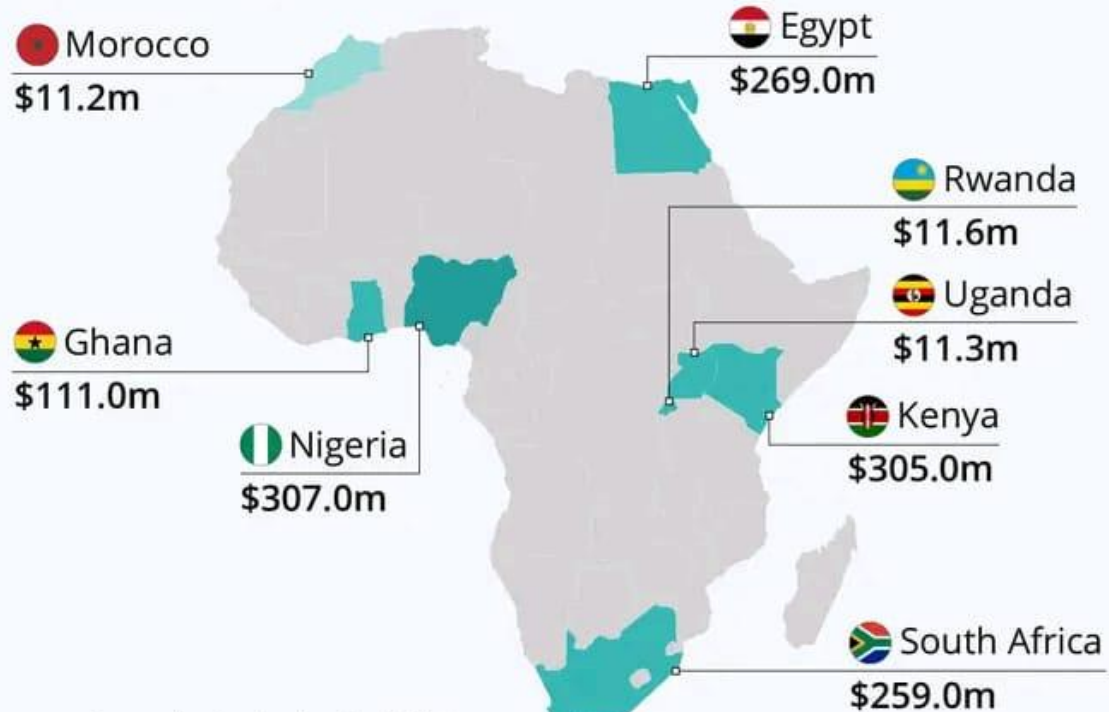# Introductions: What Do You Want to Learn?

https://bit.ly/EDU_2022_LEARN

OR

Menti.com and Enter CODE: 7851 2102

Where Africa's Startup Activity Is Concentrated

Top countries for VC investment in Africa in 2020 (in million U.S. dollars)

Morocco $11.2m
Egypt $269.0m
Rwanda $11.6m
Uganda $11.3m
Ghana $111.0m
Nigeria $307.0m
Kenya $305.0m
South Africa $259.0m

Source: Partech Analysis via AfricArena

statista

Expanding our share of the global market

Entrepreneurship Pedagogy Track

Entrepreneurship in the Classroom: Methods, Techniques, and Outcomes
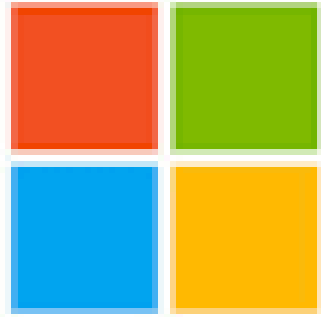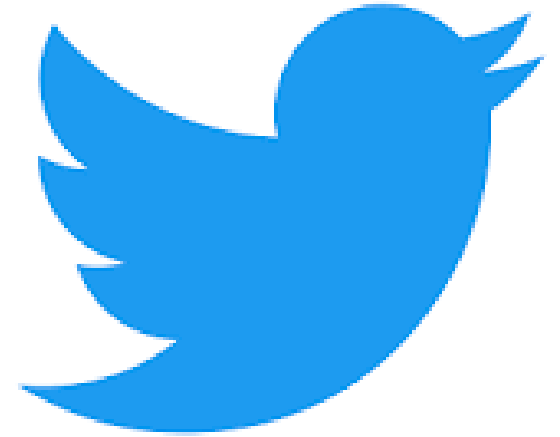
What do they have in common?

Entrepreneurship Is.....

Is just as much about the entrepreneur as it is the venture/opportunity. It's what happens in between that connects them.

Entrepreneurship Pedagogy Track

Enterprise education is the "process of developing students in a manner that provides them with an enhanced capacity to generate ideas, and the behaviors, attributes, and competencies to make them happen".

It has also been discussed that enterprise education and its leadership "extends beyond knowledge acquisition to a wide range of emotional, intellectual, social, cultural and practical underlying factors that can enhance employability prospects as well as be taken further through Entrepreneurship education" (QAA UK, 2018)

Training Across the Curriculum & Graduate Programmes

Year 1	Year 2	Year 3	Year 4	Graduate
PoD; EU; CAAD, FDE			Entrepreneurship Capstone	
	Software Eng; CaRINE; E-Commerce			
		Social Ent.; Agribusiness; Leadership IV; Engineering Projects		
Entrepreneurship Centre: D:Lab; Community Ent; Mentors/ Advisors/ Professions/ Consultants; Events (Exhibition, Ignite, Club events etc.)				
Student led efforts: Ashesi Start up Launchpad; Business Club; Agribusiness Club				
Career Services; Outreach & Experiential Programs				
				Ashesi Venture Incubator (AV)
Funders				

Mission and Goals

Our Mission ➤ Developing entrepreneurial mindsets, skillsets, and behaviors to transform Africa

1 To facilitate/coordinate training of students in entrepreneurship across the curriculum

2 To bring all the narratives of entrepreneurship efforts of the University under one purview

3 To contribute to Ghana's entrepreneurial ecosystem by sharing best practices in the various programs with relevant stakeholders
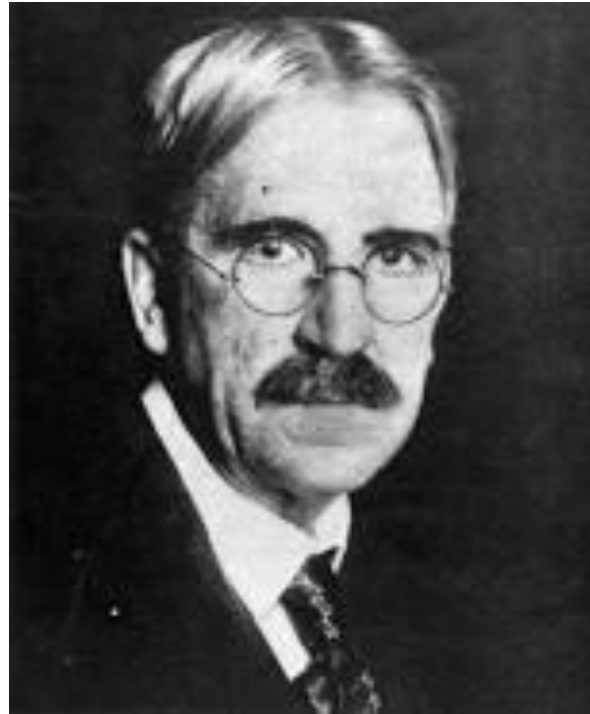
4 To encourage stakeholders' contribution and support for ongoing and proposed future entrepreneurial efforts

Talking Heads: Pedagogy

Methods:

Project Based Learning

Inquiry Based Learning or Design Based Learning

Problem Based Learning

Simulation Based Learning

David Kolb: Experiential Learning Theory

John Dewey: Progression Education

Kolb's Theory:

Kolb's theory defines experiential learning as a four-stage process:

1.**Concrete learning** occurs when a learner has a new experience or interprets a previous experience in a new way. For example, an entrepreneurial student has to learn how to identify problems as opportunities.

1.**Reflective observation** – the learner reflects on the new experience to understand what it means. In our example, the student might think about how they could have reframed the problem and think through who the relevant stakeholders are.

1.**Abstract conceptualisation** – the learner adapts their thinking or constructs new ideas based on experience and reflection. For example, entrepreneurship student begins to think more user centered than solution centered

1.**Active experimentation** – the learner applies their new ideas to real-world situations to test whether they work and see if any changes need to be made. This process can happen quickly or over an extended time. Our student works on a project based on the evidence they have gathered from the field.

Kolb's Learning Styles:

These preferences are the basis of Kolb's learning styles model, which divides learners into four types based on their dominant learning style.
Kolb's learning styles are:

• **Diverging** – In this learning style, learners focus on concrete experience and reflective observation. They prefer to watch and reflect on what they've observed before jumping in.

• **Assimilating** – This learning style incorporates learners who favour abstract conceptualisation and reflective observation. They like using analytical models to explore and prefer concepts and abstract ideas.

• **Converging** – Learners using this learning style focus on abstract conceptualisation and active experimentation. They like to solve problems and enjoy applying learning to practical issues.

• **Accommodating** – Learners using this learning style favour concrete experience and active experimentation. They relish a challenge and using intuition to solve problems.

Dewey's Theory of Education:

Dewey suggested that individuals learn and grow as a result of experiences and interactions with the world. These interactions and experiences lead individuals to continually develop new concepts, ideas, practices and understandings, which, in turn, are refined through and continue to mediate the learner's life experiences and social interactions.

Students should be engaged in active learning and inquiry. Rather than teach students to accept any seemingly valid explanations, education ought to give students opportunities to discover information and ideas by their own effort in a teacher-structured environment, and to put knowledge to functional use by defining and solving problems and determining the validity and worth of ideas and theories. As noted above, this does not preclude explicit instruction where appropriate.

Inquiry involves students in reflecting intelligently on their experiences in order to adapt their habits of action. Experience should involve what Dewey called 'transaction': an active phase, in which the student does something, as well as a phase of 'undergoing', where the student receives or observes the effect that their action has had.

Dewey's Theory of Education:

Empirical Evidence?: Quantitative research also underlines a link between heightened engagement and children's learning outcomes, with strategies such as making meaningful connections to students' home lives and encouraging student ownership of their learning found to increase student engagement[3].

Dialogic teaching
Dialogic teaching emphasizes the importance of open student dialogue and meaning-making for learning and builds on Dewey's ideas about the importance of communication and social interaction. In this approach, students are encouraged to form habits of careful listening and thoughtful speaking:

Critical inquiry
Dewey's approach to education is evident in curricula focused on critial thinking skills in which students engage in intellectual reflection and inquiry, critique, test and judge knowledge claims, make connections, apply their understandings in a range of different situations, and go into depth, rather than be given quick answers or rushed through a series of content. Dewey's philosophy of education highlights the importance of imagination to drive thinking and learning forward, and for teachers to provide opportunities for students to suspend judgement

Dewey's Theory of Education:

Teaching as inquiry

Dewey's perspective on teaching and learning encourages a teaching as inquiry mindset. His principles for teaching and learning suggest that teachers should cultivate an energetic openness to possibilities alongside a commitment to reflectively learning from experiences, be willing to experience ambiguity and use problems as an opportunity to get deeper into an understanding of self, students, the subject and the context.

One Must Learn by Doing

What Methods Do You Currently Use?

Traditional Approaches Vs Evolving

Traditional

- Business Case Studies

- Business Plan Writing

- Guest Speakers

- Lectures

- Business Simulations

Evolving

- Problem Based

- Cross- Disciplinary (not isolated)

- Co-Create Research/ Case Studies

- Intrapreneurship/Entrepreneurial Mindsets

- Role Play

- Live Critique and Feedback on Project based designs

- Stakeholder Engagement (ethnographic/generative research)

- Simulations

- HEI Entrepreneurial Ecosystems Beyond the Classroom

In Practice:

Foundations of Design and Entrepreneurship

By the end of the first semester, students should have:

1. A deep understanding and practice of the fundamentals of problem space mapping

2. Skills for conducting qualitative-based ethnographic research (now with COVID-restrictions) and analysis and the ability to deal with the underlying ambiguity inherent in the process

3. Skills for ideation and prototyping and solution definition

4. Skills to navigate teamwork for success

5. Insights into project management

6. Soft'skills for entrepreneurial leadership and ethical consideration

Social Enterprise

This course is designed to reach the following objectives:

Introduce the students to social enterprise and its extensions such as the following disciplinary ideas:

o Corporate social responsibility and shared value, "a management strategy in which companies find business opportunities in social problems" (Porter and Kramer 2011).

o Triple bottom line, the view that businesses should have three 'bottom lines': profit, people, and planet (Elkington 1998).

o Social entrepreneurship, the process whereby innovators identify a stable but unjust social equilibrium and, though a creative design process, help to forge a new, more just social equilibrium (Martin and Osberg 2007).

o The bottom of the pyramid, a business strategy that sees "market promise [in] the billions

of aspiring poor who are joining the market economy for the first time" (Hart and Prahalad

2002).

o Impact investing, the idea of "investment strategies that generate financial returns while intentionally improving social and environmental conditions" (Bugg-Levine and Emerson 2011).

Outputs

Kevin Blankson

Hannah Dorkenu

Redefining Your Curriculum

Determine the type of student you have or intend to produce and current HEI enterprise Culture:

Set your pedagogical approach

Utilize a methodology that is measurable and creates an active learning approach geared towards inquiry

Create assessments that are a mix between formative and summative

Ensure the outputs students receive feedback and are able to effectively apply what they have learned (projects)

Create internal measures that enable you to understand the entrepreneurial journey of your students

Let's Create:

Developing a POV

Point of view, or POV, in design thinking is a written, actionable statement that expresses the problem that the design team is trying to address. This is also often called a **problem statement**; that is, an expression of the problem (or problems) that customers identified the Empathize stage. In fact, crafting a POV statement is the central purpose of the **Define** stage of design thinking. It provides a framework for designers to use in later brainstorming sessions.

Without the POV, the design team has no real direction for creating solutions. In that way, a POV is much like a roadmap for the remainder of the design thinking process. It helps designers approach brainstorming in a strategic way. With a clearly articulated POV, a design team can create plausible solutions.

Design Thinking Process
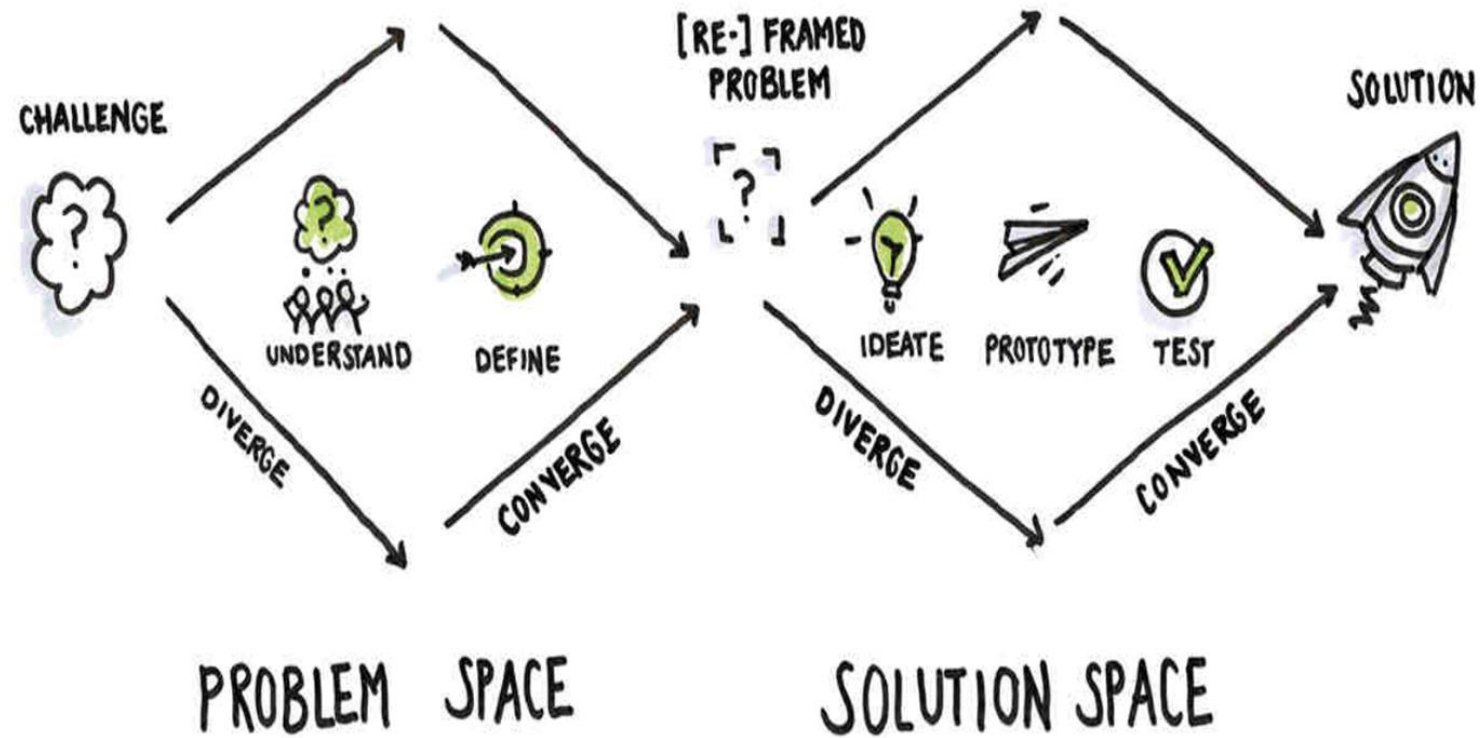
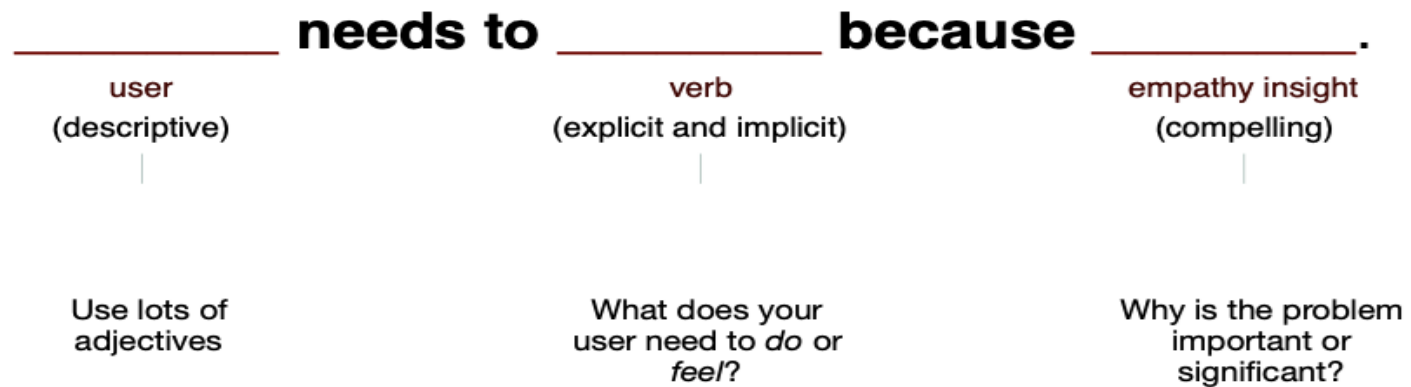# Point of View

| pɔɪnt əv |

noun

the position from which something or someone is observed.

Reframing of a **design challenge** into an **actionable problem statement** that will launch you into generative ideation…

Point of View

_____ needs to _____ because _____.

user	verb	empathy insight
(descriptive)	(explicit and implicit)	(compelling)

| Use lots of adjectives | What does your user need to *do* or *feel*? | Why is the problem important or significant? |

Redesign an Incubator for rural women

The Challenge

Each year, 20 million premature and low-birth-weight babies are born. In developing countries, mortality for these infants is particularly high because incubators are extremely rare. Most hospitals and clinics in developing countries don't have enough incubators to meet the tremendous need. New incubators are extremely expensive, and donated incubators are confusing to operate and are difficult to maintain and repair. Design That Matters challenged our Extreme Affordability students to design a better incubator for the developing world.

The Insight

The Embrace team began their need finding in Kathmandu, the capital city of Nepal. After spending several days observing the neonatal unit of the Kathmandu hospital, the team asked to be taken outside the city to see how premature infants were cared for in rural areas. They learned two alarming things: First, the overwhelming majority of all premature Nepalese infants were born in these rural areas. And second, most of these infants would never make it to a hospital. They realized that no matter how good their design for a new incubator was, it would never help these babies if it stayed in a hospital. To save the maximum number of lives, their design would have to function in a rural environment. It would have to work without electricity and be transportable, intuitive, sanitizable, culturally appropriate, and perhaps most importantly—inexpensive.

A desperate mother in a rural
area needs baby warming
device to save her baby when
she lives in a community
where there is a low cultural
acceptance for separating
mothers from premature
babies?

Point of View (POV)   = USER + NEED + EMPATHY INSIGHT

The Product

- By the end of class, the team had created their first prototype of the Embrace Incubator. The design looked something like a sleeping bag. It wrapped around a premature infant, and a pouch of phase-change material (PCM) kept the baby's body at exactly the right temperature—and maintained this temperature for up to four hours. After four hours, the PCM pouch could be "recharged" by submerging it in boiling water for a few minutes.

- The Embrace Incubator is small and light, making it easy and inexpensive to transport to rural villages. The entire sleeping bag can be sanitized in boiling water. It is far more intuitive to use than traditional incubators, and fits well into the recommended practice of "Kangaroo Care," where a mother holds her baby against her skin. Finally, compared to the $20,000 price of a traditional incubator, the Embrace incubator only costs $25.

- The product uses an innovative wax incorporated in a sleeping bag to regulate a baby's temperature. It stays warm without electricity, has no moving parts, is portable and is safe and intuitive to use. The Embrace Infant Warmer can be used in a clinical setting, for transporting babies, and in a community setting.

What did we use?

- Experiential Approach
  - Inquiry Based
  - Team Work/ Collaboration
  - Creative Thinking
  - Problem Solving
  - Design Based: Generative

  - Leads to insights and innovation
  - Assessment: Final exam, have the student break down what a POV is and justify the it's development with an example.

Key Takeaways from today's session

- What did you learn?

- What will you apply?

- What are some questions you may have?

Thank You