**Teaching Entrepreneurship in the Metaverse: Identifying Opportunities using Design Thinking**

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**Abstract**

Entrepreneurship education is fundamental in mentoring and guiding the development of successful entrepreneurs worldwide. However, the pedagogy in which entrepreneurship has been taught and delivered requires re-evaluation and an update given the current advance of new interactive educational technologies such as virtual reality (VR) available in the *Metaverse*. Professors and a new generation of students in business schools feel necessity for alternative teaching opportunities incorporating state of the art technologies and new processes to create a real-time and relevant entrepreneurial learning experience.

Engaging students in a meaningful way in the study of entrepreneurship has been a challenge in the class and particularly so in the remote modality. During the COVID pandemic, we have used Zoom for student engagement however, over time, zoom fatigue has become common, resulting in a drop in student enrolment and engagement Even though the pandemic may eventually decline, distant learning persists as a solution for many students and a new interactive learning tool is welcome in the entrepreneurship classroom.

*Utilizing the Metaverse* in education has become the latest tool for engagement in the class and in distant learning.  Yet how can it be adapted to entrepreneurial strategy and management pedagogy? In this session, we focus on the role of virtual reality (VR) tools as means to address engagement through sample cases as applied to management. As part of the exercise, we provide a set of best practices for management educators in entrepreneurship to address and end with learning objectives and practical business implications.

*Keywords: Entrepreneurship, Design Thinking, Metaverse, Virtual Reality, Student Engagement*

**Introduction**

         In this almost post covid world, we find that more people are resigning and recognizing the need for entrepreneurial thinking in securing their aspirations and future. (Kirtley, 2021 conversation). see figure 1 below reflects the recent rise in new business applications. Entrepreneurship education has emerged as a practical and immersive way of teaching business management, a far cry from traditional management education (Mason et al. 2013.) Conclusively, experiential learning is an effective tool “complementing and reinforcing prior classroom learning through application.” and has a positive impact on developing entrepreneurial endeavors.

Figure 1: Increase in Business filings



In today’s world, educators in higher education have steadily moved away from “ I talk, you listen” mode to experiential learning, simulations, etc.  (Harder 2010), gamification (Deterding 2011), student as a producer (Neary et al.2014), service learning (Baum 2004), interactive storytelling (Crawford 2004) and others.  Nadworny, 2022 in a state that more than 1 million fewer students enrolled in college. In addition, to getting jobs and starting jobs, many students feel “There was a lack of meaningful connections.” Hanson 2021. In an Edutopia study in 2017 similar declines in engagement were found.  In another study in Canada, 50.9% of students cited “engagement in learning at home” as critical to their learning and retention (Bennett, 2020) In Post-Covid, we will still find students learning remotely.  Will engagement increase? If so, how will we make it happen? A key issue that educators face is how we can address this gap with newer digital tools available in the Metaverse.To clarify this discussion, a clarification of the terms Metaverse and virtual reality are identifies as following:

**Definitions of Terms**

**What is the Metaverse?**

[Eric Redmond](https://www.linkedin.com/in/coderoshi/) (Global Director, Technology Innovation, Nike)

“My general description: The Metaverse crosses the physical/digital divide between actual and virtual realities.”

[Tom Allen](https://www.linkedin.com/in/tom-allen-515058b7/) (Founder of The AI Journal)

“An exponentially growing virtual universe where people can create their own world how they see fit adapting experiences and knowledge from the physical world”

[Richard Ward](https://www.linkedin.com/in/richardhward/) (Global lead Enterprise VR at McKinsey)

“We are already in the MetaVerse, it’s just mostly 1D (text apps, clubhouse), 2D (Zoom, shared productivity apps like Google Sheets), 2.5D (games like Fortnite, Virbela) - 3D (VR/AR) is just in the development stages.”

[Elena Piech](https://www.linkedin.com/in/elepiech/) ( Experiential Producer at AMP Creative )

“First coined in Neal Stephenson’s 1992 Sci-Fi novel Snowcrash, I see the Metaverse as the gradual convergence of the digital world with the physical world. A world where we no longer notice a distinction between our digital avatars and our physical selves. A world where smart lenses and BCI devices enable us to be surrounded by information – interactive information for work, entertainment, education, and more. This is the next iteration of the internet. And as dystopian it may sound, this is the next iteration of life.”

[Karinna Nobbs](https://www.linkedin.com/in/karinnanobbs/) (Co-CEO of The Dematerialised)

“My definition is more around its purpose and driver of adoption than its tech composition. The Metaverse is the next significant third space (coined by sociologist Ray Oldenburg) as not home (1st), not work or study (2nd) but where you will spend your leisure time. It is the anchor of community life and where you meet with old and new friends.”

[Bosco Bellinghausen](https://www.linkedin.com/in/bosco-bellinghausen/) (Founder of Alissia Spaces)

“The Metaverse for me is an actual bridge, which for now is a gateway between the real and the virtual reality. But in 50 years, it will be the gateway for us to space and beyond! Right now we just see virtual reality as another playground for innovators, nerds, and gamers. But soon we will have understood that everything is just ONE reality. The Metaverse stands, like Blockchain, for equality for each one of us human beings, living beings, and machines. A true technological democracy that will make every real and artificial life equal. Everyone will have a true digital twin, which they will own 100%. That way we can travel between the real and the virtual reality and always remain us.”

**What is Virtual Reality and how does that fit into the Metaverse**

Virtual reality is a technology in the Metaverse that attempts to regenerate computer images and videos to produce real-life visual experiences that are beyond those achieved on the ordinary computer monitor and phone. VR systems do so by using computer vision and advanced graphics to generate 3D images and video by adding depth, and by reconstructing the scale and distances between static 2D images.

The user must be able to explore and control these 3D environments using VR headsets lens and controllers which might have sensors on them for users to be able to experience the VR content.

Simply click on the video and put your phone inside your VR headset. If you are not using headsets, simply look for the arrows <> inside the video to browse the video in 3D. You can look anywhere around you as you use the headset or the arrows to browse the video in 3D.

 In effect, virtual reality is all about using a device like a special 3D video or image camera to create a three-dimensional world that a user can manipulate and explore later or in real-time using VR headsets and lenses, while feeling he or she is in that simulated world. The user will see a life-size image and the resulting perception is that they are the part of that simulation.

Advantages of Using Virtual Reality in the Classroom

There are a lot of advantages in using virtual reality to teach in the classroom over traditional teaching methods:

1. Solutions to problems can be visualized more clearly.
2. Information can be shared visually and in a more appealing way.
3. Students get to learn in an outside environment without actually leaving the classroo

## **Examples of Virtual Reality in Education**

### **#1. Group Work**

Group work is an absolute necessity in the classroom. it helps students exchange information, build a common understanding and explore new ideas with peers.

There are many virtual reality group work tools to assist in these efforts. The VRChat app is one app that makes educational group work easy in a virtual classroom.

Collaborate, meet, discuss, present, and make collective decisions while connected with others. Below are some examples of how a classroom can benefit from group work apps in VR:

Improve understanding of abstract, spatial geometric concepts through manipulation of virtual 3D objects.

### **#2. Virtual Field Trips**

Virtual field trips have become one of the most popular applications of VR technology for learning. Many schools have begun using The Discovery Education app to transport students to faraway and inaccessible businesses worldwide.

**Identifying Entrepreneurial Opportunities in the Metaverse**

Metaverse has been called the empathy machine (Constine, 2015); this is “primarily because of the technical characteristics that strengthen the users' feelings of “being there” ([Cummings and Bailenson, 2016](https://www.emerald.com/insight/content/doi/10.1108/INTR-07-2019-0306/full/html#ref016))” (Bujic, 2020. Until now, though, the closest we could come to that old saying was through video documentary. Follow someone around long enough and you get a taste for what their life is like. But it’s still *their* life.. Virtual reality represents a giant leap forward in mankind’s propensity for compassion. You don’t just walk in someone’s shoes, but see the world through their eyes. In essence, a virtual reality headset is an empathy machine.). Entrepreneurship education and design thinking is all about experiential exercises and real-life applications

**What is Design Thinking**

Design thinking is a process for solving problems by prioritizing the consumer’s needs above all else. It relies on observing, with empathy, [how people interact with their environments](https://www.wework.com/ideas/the-science-behind-smart-office-design), and employs an iterative, hands-on approach to creating [innovative solutions](https://www.wework.com/ideas/what-is-business-innovation).

Design thinking is “human-centered,” which means that it uses evidence of how consumers(humans) *actually* engage with a product or service, rather than how someone else or an organization *thinks* they will engage with it. To be truly human-centered, [designers watch how people use a product or service](https://www.wework.com/ideas/look-and-feel-how-good-design-makes-better-business) and continue to refine the product or service in order to improve the consumer’s experience. This is the “iterative” part of design thinking. It favors moving quickly to get prototypes out to test, rather than endless research or rumination. In contrast to traditional problem-solving, which is a linear process of identifying a problem and then [brainstorming solutions](https://www.wework.com/ideas/effective-brainstorming-techniques), design thinking only works if it is iterative. It is less of a means to get to a single solution, and more of a way to continuously evolve your thinking and respond to consumer needs.

The Design thinking process in entrepreneurial education is a proven method to generate new ideas and solutions however when used in the metaverse there is an significant increase in potential outcomes from opportunity recognition to solving intractable issues. As part of opportunity recognition, we also ask students to “empathize” with customers to do deep listening and figure out the real opportunities. Metaverse has been called the ultimate empathy machine where a student can “walk” in the shoes of the customer and stakeholder using tools such a virtual reality. Design thinking exercises and [design thinking workshops](https://voltagecontrol.com/blog/benefits-of-design-thinking-workshops/) encompass the [5-step design thinking process](https://voltagecontrol.com/blog/5-steps-of-the-design-thinking-process-a-step-by-step-guide/):

1. Empathize – Understand the perspective of the target audience/customer/consumer to identify and address the problem at hand.
2. Define – Define the problem statement clearly.
3. Ideate – Brainstorm ways to address identified unmet needs.
4. Prototype – Identity which of the possible solutions can best solve the identified problem(s).
5. Test – Test the product with your target audience to get feedback.

This five-step process [enables teams](https://voltagecontrol.com/blog/why-your-team-needs-design-thinking-training/) to come up with impactful solutions to real problems. There are specific design thinking exercises that can help with each step.

**Learning Objectives, Engagement, & Takeaway**.

 The PDW is intended to showcase to management educators how the metaverse is being used for education in entrepreneurship.   Every member can attend this virtually and take part in a short design thinking exercise in the metaverse where they can learn how to leverage it for a more engaging class.   The main outcome is to learn how to apply this new tool to an interactive design thinking exercise.

  The learning outcomes include

1.     Understanding the metaverse to create design ideation forums for entrepreneurial opportunities

2.       Application of Metaverse tools for education

3.       Integrate this tool as a one-off or all-inclusive for entrepreneurship education.

**Session Description and Plan**

To achieve our learning objectives, our session is thus planned as follows:

● Format **– Our format is an activity/demo** We will first provide an overview of the metaverse.  Since this is fairly new in entrepreneurship, we discuss how it can be applied.

●  Target Audience – Entrepreneurship educators around the globe who are looking to reach a larger audience as well as improve engagement

●  Materials Needed – computer and free software

●  Time Requested – 30 minutes

**Exercise/Activity Overview**

●  **Part A:  Overview (10 minutes)**

We will start out by discussing the metaverse as a concept, and how it is moving into education. We will also discuss how firms and entrepreneurs are using it.

o   This will cover a wide range of applications of the metaverse in the higher education world.

o        The main focus here is to understand the metaverse, where we are in terms of hardware, software and applications in management education.

●      **Part B:   Demo**

o   **This section will then give a hands-on view**

**Exercise (15 minutes) –**    We will show participants how to set up the classroom in the metaverse and then have them enter it and do a short design thinking brainwriting exercise.

●      **Part C: Debrief and future ideas** (5 Minutes)

o   A debriefing of what we have experienced will conclude the session, We will ask each participant to brainstorm as a group and come up with applications beyond design thinking of the metaverse as part of their education.

o   We will also discuss what we have experienced and best practices

**Application to Conference Theme and Unique Contribution to MOBTS**

   As this year’s MOTC International conference focuses on insights ineffective teaching we found that zoom is not as conducive for teaching design thinking as the Metaverse and would love to focus on that. In this session, we Designed an effective and engaging *assessment.*

**Acknowledgments of First-Time Submission of This Work**

This is the first time this proposal has been presented to MOBTC and at a conference.

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