The WEC Curriculum Approach

MINDSETS!

What we believe about ourselves and about the world at large has a profound effect on how we live within it.

The focus of entrepreneurship education has recently seen a significant shift from task-oriented business skills training – for example business plan generation, basic marketing strategy or understanding financial statements – to the development of an entrepreneurial way of framing all interactions with the world; a mindset.

Carol Dweck remains the most recognisable name in mindset theory. She defines mindset as an "implicit theory" – an assumption or belief, conscious or unconscious, which affects behaviour, decision making, and preference. Her work, and that of others, has proved that mindsets are malleable, teachable, and that they have a significant impact on performance.

As such, the development of powerful entrepreneurial mindsets is the core goal of the Wavumbuzi Entrepreneurship Challenge!

This presentation provides a nice succinct history of some of the leading research on mindset theory since the 1980's.

Some of our key takeaways from the research:

I. Entrepreneurial aspiration/attention is important. A great program should:
   A. Enhance the attributes/mindsets that make for good entrepreneurs,
   B. Improve learner intentions to become entrepreneurs, (Viewing it as an attractive + feasible path)
   C. Push learners towards entrepreneurial action,

II. A great program should take a broad "ecological" approach whereby it:
   A. Removes any structural constraints/obstacles in order to ensure realistic and valuable pathways
   B. Drives a culture/environment which encourages learners to make the most of the available opportunities. (i.e. turns opportunity into action)

III. A great program should develop entrepreneurial mindsets as a way of:
   A. *Thinking:*
      - 1. Creativity and Innovation
   B. *Doing:*
      - 2. Opportunity Assessment | 3. Action orientation | 4. Ability to innovate | 5. Ability to mobilise others | 6. Ability to mobile resources | 7. Community ability
   C. *Being:*
      - 8. Values-driven | 9. Need to achieve | 10. Ability to tolerate ambiguity & uncertainty | 11. Ability to take risks | 12. Good locus of control | 13. Need for autonomy

The WEC Mindsets

Historically, we've refined and simplified much of the research into the 5 categories below, which cover most of the mindsets which the various research frameworks say is important. Going forward we'll be expanding to incorporate a more nuanced framework, under development, which includes the 13 mindsets outlined above.

Intellectual Imagination / Innovative Thinking
- *Constantly spots opportunities and generates multiple novel solutions, while challenging conventional ways of thinking.* - *Integrates, refines and selects the best solutions for testing, within a dynamic and complex world.* - *Able to cope with ambiguity, uncertainty and risk.*
Personal Initiative
- *Action Orientation. Proactively and independently takes decisive action.* - *Finds ways to overcome resource constraints.*
Grit / Resilience
- *Views difficult situations (and occasional failures) as part of the path to mastery.* - *Willing to try again and again to achieve success.* - *Regularly reflects and adapts. (Seeks external feedback to strengthen learning)* - *Displays genuine curiosity and seizes every opportunity to learn.*
Spirit of Significance
- *Confident in own ability to influence change. (Self-efficacy)* - *Displays empathy cares about the needs of others and of the broader community digs deeper to understand as well as possible. Ethical and sustainable thinking.* - *Is able to dream big ambitious dreams.* - *Able to recruit, motivate and support others towards team achievement*
Achievement Excellence / Drive
- *Sets goals and stays focused until they're achieved. Plans and executes well.* - *Delivers a high standard of excellence consistently exceeding expectations.*

GAMIFICATION & THE CHALLENGE STRUCTURE

Bite-sized learning

To fit in with the busy schedules of modern learners, the WEC curriculum is delivered via roughly 50 “bite-sized” micro-challenges, with around 8 new challenges being announced each week. This means that eager learners can tackle the challenges at any time and from anywhere.

Occasionally we do introduce a few longer/more difficult challenges (e.g. building a chatbot), in which instance we are able to offer a higher number of points for doing these – to entice learners to put in the extra effort required to do them well.

Peer Review

Each challenge is scored against its own unique rubric. The scoring is done by a combination of teachers and/or learners, with each submission being scored by multiple markers. A smart algorithm then assesses the scores to determine what is a fair score – with teacher scoring being given a higher weighting.

The use of peer review has 2 key advantages:

- *Scalability and freeing up teacher time:* With learners also contributing to the marking, there is less marking for teachers to do, which frees them up to support and add value in other ways. (Learners earn bonus points for doing the marking – but only if the mark they gave is close enough to the final “fair” score given by the algorithm)
- *Seeing different perspectives:* Learners can only mark submissions for challenges which they’ve already completed. This means that when they’re marking they would already have engaged deeply with the challenge in question. Seeing the perspectives of other learners on those same challenges contributes hugely to their learning.

Practical and Applied

The secret sauce of the Challenge is the way in which it creates memorable learning *experiences!*

We design challenges so that the experiences will be fun, memorable and worth talking about. We often have learners engaging with each other, with their teachers, and with local entrepreneurs.

This social interaction creates memorable shared experiences, exposes learners to good role models, and gets them engaging with the “real world” outside of school . We’ve found this engagement with the real world to do wonders for learner engagement. We find that school are usually too isolated from the world outside, not allowing learners much opportunity to explore what’s out there and how they might fit into it someday.

The Power of Story

Story has long been recognized as a powerful way to influence how people see the world. It's also a critical component in most of the literature on Game Design. Stories unlock the imagination and allow one to suspend reality for just a moment, to think of the world (and oneself) in a slightly different way.

What the story readers/listeners don't recognize is that some small part of the story usually stays behind in how you see the world. Developing mindsets (how learners see the world) is after all exactly what WEC is after. As such, the use of story is a big, and growing, component of the WEC curriculum game plan.

Game Theory Elements

The "gamified" mechanisms used by WEC cover a wide range of different "Gameplay Pleasures" as per LeBlanc's Taxonomy of gameplay pleasures.

This allows for a flexible experience which is enjoyable for many different types of gamers. See Bartle's Player Types for just one example of different player types: The achiever, the explorer, the socializer,…

Some game mechanisms already in use by WEC:

- Leaderboards (Per individual, Classes within a school, Schools within the country) (Live update)
- Badges for progress + performance.
- Progression through, and exploration of, a beautiful game world. (visible progress)
- Weekly prizes. (Bluetooth speakers, hoodies, t-shirts, backpacks, school supplies, …)
- Leave them wanting more. (As done with the Candy Crush "time out" mechanism)
- Careful management of the interest curves (more on interest curves) + ensuring just the right level of difficulty to navigate effectively between learner anxiety and boredom (see article on the theory of cognitive flow).
- Skill Profile (Radar Chart)
- Bonus Challenges which are unlocked when enough "Core" challenges are completed within a given week.

CHALLENGE THEMES/FOCUS AREAS

A critical component of our approach is to ensure that the challenges are personally as well as contextually relevant. I.e. learners should be able to relate to each challenge, and the challenges should engage them in topics that are relevant to their context.

While mindset development remains the core focus for WEC, we have found the use of “weekly themes” very helpful for packaging/contextualizing the challenges across the challenge season. Some of the *weekly themes* we’ve used in the past:

- Kenya 2019: The “Big 4 Agenda”: Food security, Healthcare, Affordable Housing, Advanced Manufacturing.
- South Africa 2019: 4th Industrial Revolution, Food Security, Healthcare, Housing, Manufacturing
- South Africa 2018: Social Entrepreneurship, Transport, Climate Response, Healthcare, Artificial Intelligence, Blockchain

More important is that our curriculum will aim to partner with officials by aligning efforts with Rwanda’s Vision 2050. We went through the vision and a supporting report written independently by the World Bank, to explore the likely key drivers for achieving Vision 2050.

We learned that potential drivers would be ‘Innovation, Integration, Agglomeration, And Competition’ and that the country needs to enhance all four if it is to achieve the desired economic growth targets.

As we understand it Rwanda’s Vision 2050 is largely aimed at achieving two main structural outcomes namely grow Rwanda to become i) a middle income economy and ii) a knowledge economy. We feel that we can make a tremendous contribution towards the vision of Rwanda as a world-leading knowledge economy.

Other Recurring Topics/Frameworks Used

The topics/frameworks listed below are some of the key ones we’ve weaved into the curriculum in the past to introduce learners to some useful frameworks/methodologies.

Each of these methodologies is usually weaved into at least 3 of the challenges. This ensures enough opportunity to put the concept into action and deepens the learner's understanding of the value that lies within the framework.

- Data driven decision making. (At school, In business, In digital marketing)
- Human Centred Design (Weaved into the business building process - see more on this below)
- The Lean Startup Method (Also weaved into the business building process)

The Business Builder Challenges

We have found that both teachers and learners get very excited about building their own businesses. As such, we've listened to them, and incorporated this as a key, but relatively minor, component of our program. (Usually comprising around 10-12 out of the 50 challenges)

These business builder challenges guide learners on a step-step by step journey to building their business while avoiding the most common entrepreneurial pitfalls. This journey is modeled loosely on the book "Disciplined Entrepreneurship", written by Bill Aulet who runs the entrepreneurship school at the Massachusetts Institute of Technology (MIT) - one of the most respected programs in the world.

Obviously the content is vastly simplified to be suitable for a high school audience. The book does a great job of distilling some of the best theory on innovation and entrepreneurship (Lean Startup, Human Centred Design, …) into a set of very practical and easily actionable steps.

The business builder challenges culminate with a Pitch Challenge where learners upload a video pitch of their business and stand a chance to gain access to some business investment. In Kenya in 2019, we expanded the pitch competition into a multi-round affair with business coaching happening in between rounds for those who made it through each round of selection. This move was a huge success and generated a great deal of additional excitement for the challenge.

CHALLENGE EXAMPLES

Below are a few examples of challenges we've used in the past.

First, one that looks to develop self-efficacy:

Challenge Name: A dent in the universe

Challenge Intro

"When you grow up you tend to get told that the world just is the way it is… But that's a very limited life. Life can be much broader than that, once you discover one simple fact:

That everything around you was made up by people no smarter than you, and you can change, you can influence it, you can build your own things that other people can use… The minute you understand that you can poke life, that if you push in, something will pop out on the other side, that you can change it, that you can mould it, … that's maybe the most important thing…

once you learn that you'll want to change life, to make it better, because it's kind of messed up in a lot of ways."

- Steve Jobs (Founder of Apple Computers) (See as video)

Your Challenge

Steve Jobs often spoke about "putting a dent in the universe". (I.e. to make a difference/contribution)

Suppose that you were 100% guaranteed of success on a project:

- What project would you undertake? Describe why you'd choose this one.
- What change would it make in the world? (i.e. What dent would put in the universe?)
- Roughly how would you make it happen?

Scoring Rubric

- The desired change is very clearly described. (25)
- The route to achieving the desired change is well described. (25)
- The project described is within the realms of possibility. I.e. it is at least somewhat realistic. (25)
- This project clearly has personal relevance/meaning to the challenger. (25)

The next example challenge introduces the very useful "Human Centred Design" methodology, while also helping the learners identify potential opportunities for adding value at their school.

Challenge Name: Understanding the problem

Challenge Intro

“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.” - Albert Einstein

In week one you would have completed the first Human Centred Design Thinking challenge - The Empathy Interview. We think that an obsession with properly understanding problems is so core to being a good entrepreneur that we're going to ask you to do it again!

This time we want you to focus on your teachers. What are some of their biggest problems and frustrations at school?

Remember the basic rules of empathy interviews:

- Always ask open ended questions, you are trying to get a story, don’t ask questions that get only a Yes or a No as an answer.
- Try to avoid even thinking about solutions when you are interviewing. Your primary aim is to understand the problem!

Your Challenge

Step 1

Prepare 5 open ended questions you could use to interview teachers and other staff members at your school.

Reminder: Open ended questions encourage a story - For example, Tell me about one thing that happened today that was very frustrating. Open ended questions can never be answered with just a Yes or a No.

Submit your 5 questions in the input area below:

[Text input box in the WEC App where learners can type in their answers.]

Step 2

Now find at least 4 teachers or other staff members and ask your questions.

Once you've completed your interviews (Remember to take notes!), write down and submit what you think is the biggest problem facing your school's staff, and why you think so.

Scoring Rubric

- The 5 questions are open ended and appropriate to the context of a school staff member. (35)
- The problem is described in good detail and shows evidence of good listening skills. (35)
- This challenger has gained real insights/learning through this exercise. (30)

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And finally, a challenge that illustrates how we like to integrate exciting new trends and technologies into the curriculum:

Challenge Name: Chatbot Time!

Challenge Intro

If you've spent much time online lately, you've probably encountered at least 1 chatbot.
What is a chatbot?

Chatbots are one example of a "conversational interface" - a concept receiving a lot of attention in the business world at the moment:
Conversational Interfaces - why they matter

What's really exciting for startup companies and young entrepreneurs is that access to these technologies doesn't have to cost a fortune.

Let's get you started with designing and building your very own chatbot! For free!

Your Challenge

Step 1

Think up and describe a chatbot that would add value in your community.
Be sure to describe who would use it and what value they would gain from it.

^ *Perhaps you can think of a chatbot that will help the business you've been working on, as well as the community you're serving.*

Step 2

Now, use something like SnatchBot.me , or any other software that works, to build a first version (MVP) of the chatbot you described in question 1.

Provide a link/address through which WEC challengers can talk with your chatbot...

- Be sure to test the link on a friend's device before uploading it! Your chatbot should be web-based and accessible to anyone - even if they don't have Facebook or an email address.
- Note that this challenge is not for the faint of heart. It will take some perseverance to get used to the software. It is however a very valuable skill to develop.

"I'm convinced that about half of what separates successful entrepreneurs from the rest is pure perseverance."
- Steve Jobs (Founder of Apple Computers)

Scoring Rubric

- A clear description is provided of who the user is and how the chatbot adds value to them. (40)
- Such a chatbot would indeed add great value to these users.. (40)
- The link provided works and the chatbot works. I can interact with it.. (50)
- The chatbot MVP is well designed and could add real value if further developed. (70)

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Finally - just an acknowledgement that we have been working towards the use of more local role models in the challenges - as supposed to using Silicon Valley titans like Steve Jobs and Elon Musk.