

UFS Senate Conference 2024

Making Change Through Engaged Scholarship

11 to 12 March 2024



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*Inspiring excellence, transforming lives
through quality, impact, and care.*

VISION **130**
Renew and Reimagine
for 2034

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA

The UFS logo, featuring a stylized 'U' and 'F' intertwined within a shield-like shape, followed by the letters 'UFS'.



*Knowledge Products and Scholarship
Engagement: The Way Forward for Universities*

Prof T E Cloete

Undergraduate learning and teaching





What if we set aside all discussion of things ***as they were, as they are*** and ***as they might become***, and concentrated on ***what they ought to be*** ?

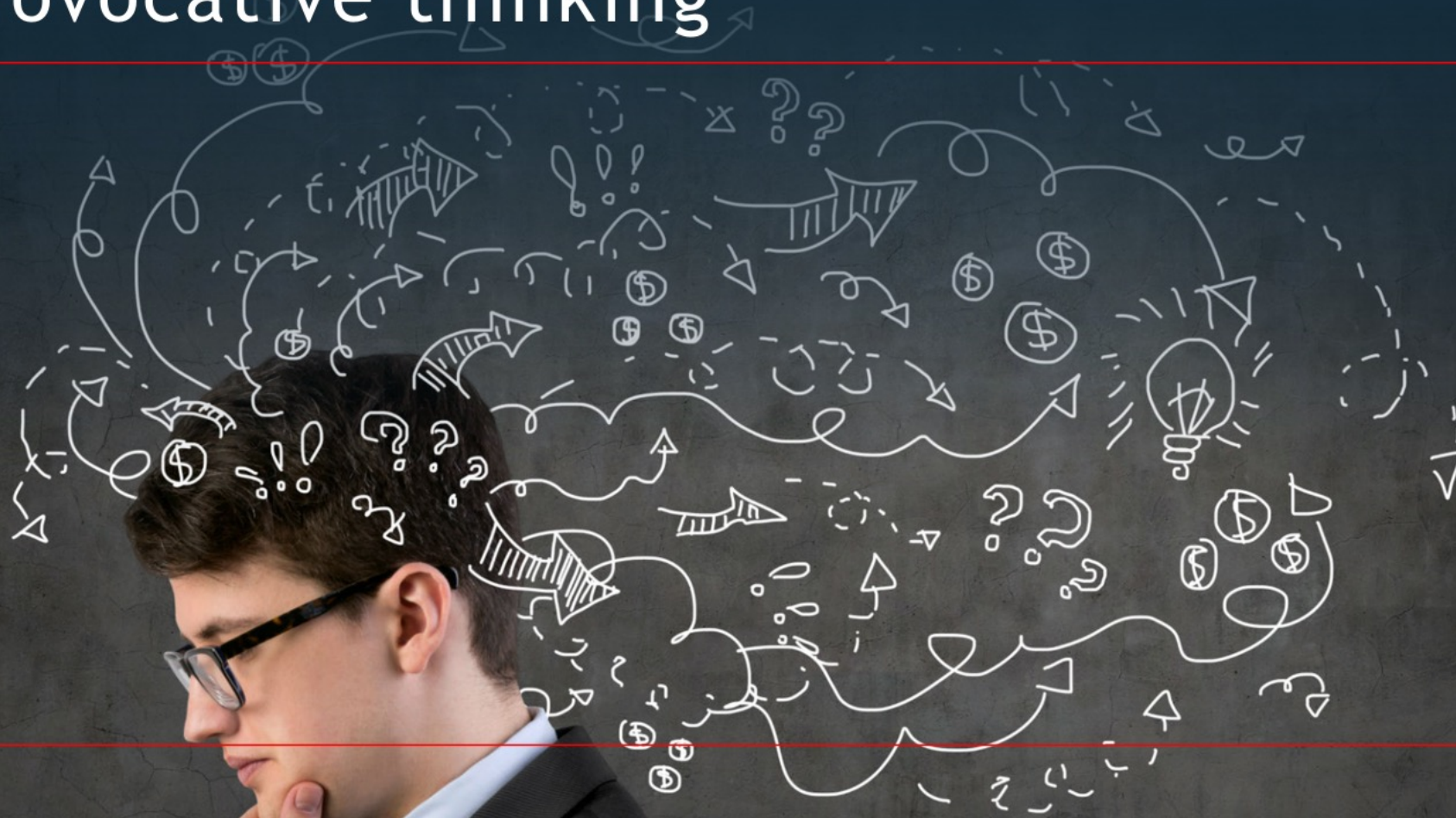
DEE HOCK

Intelligence

- Factual intelligence
- Analytical
- Linguistic (verbal)
- Spatial
- Creative
- Practical
- Emotional
- Interpersonal
- Moral
- Physical
- Musical
- Financial



Provocative thinking



Four myths of learning

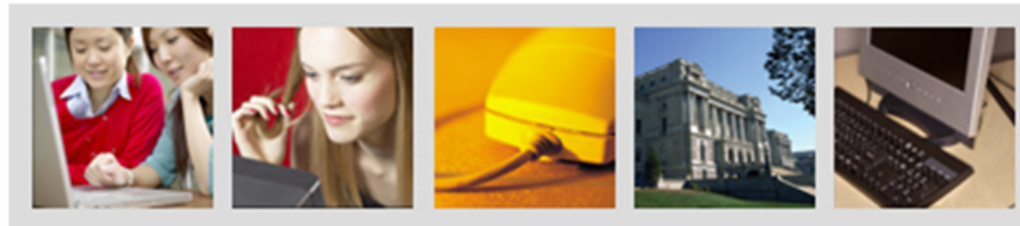
1. School is the best place to learn.

2. Intelligence is fixed.

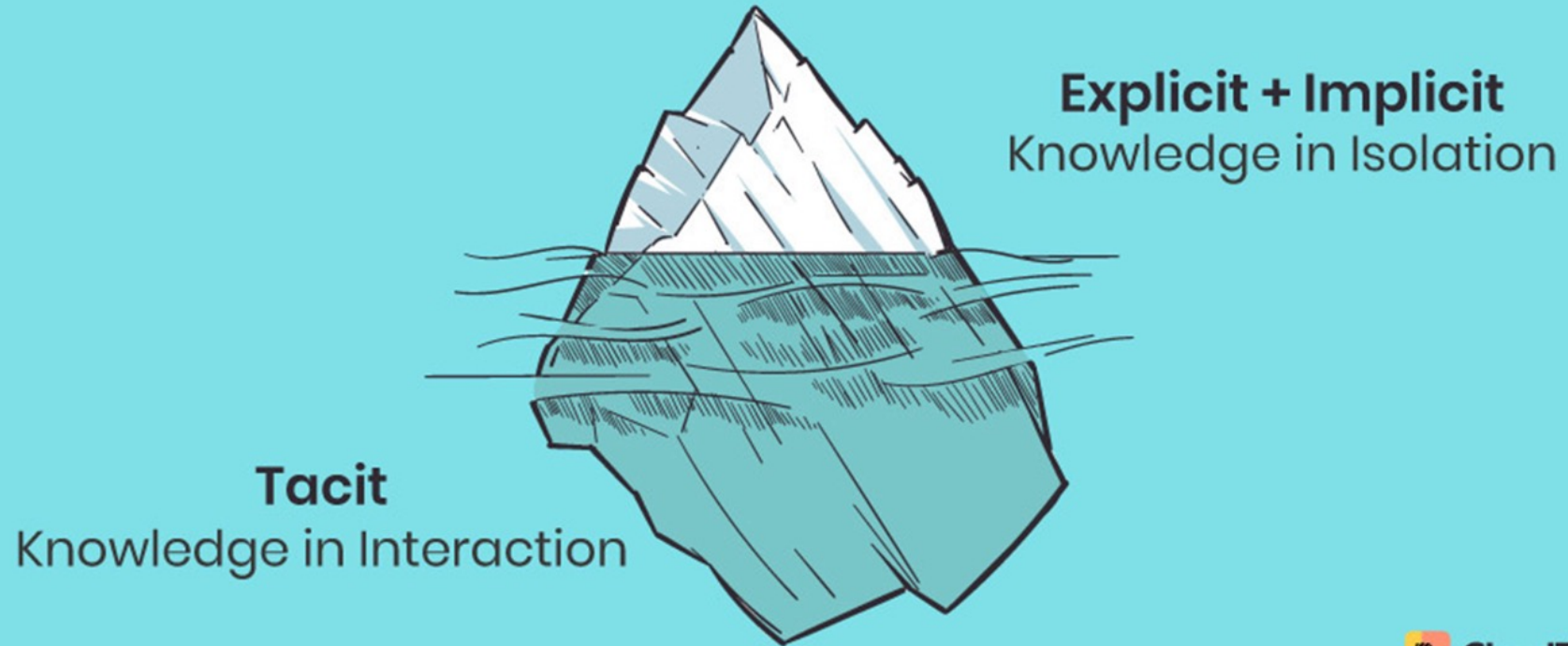
3. Teaching produces learning.

4. We all learn the same way.

JEANNETTE VOS



Knowledge as an Iceberg Model



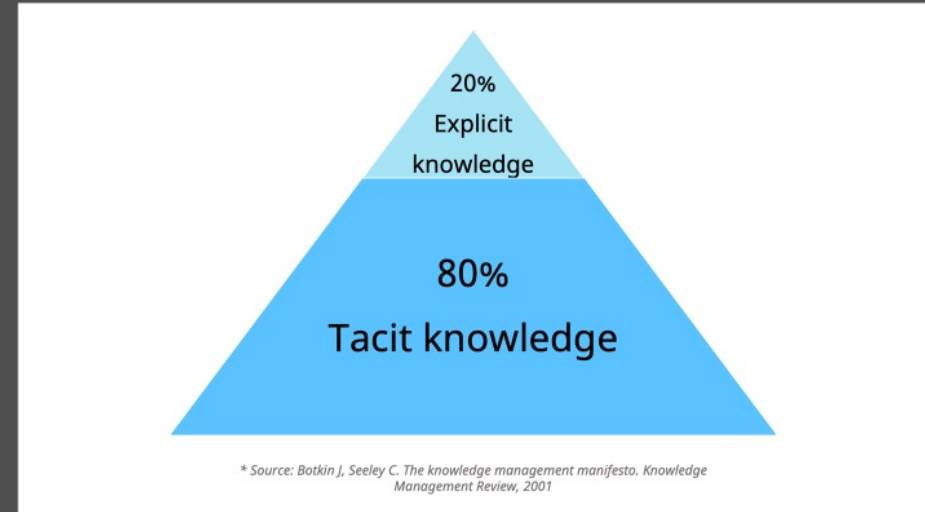
EXPLICIT KNOWLEDGE

VERSUS

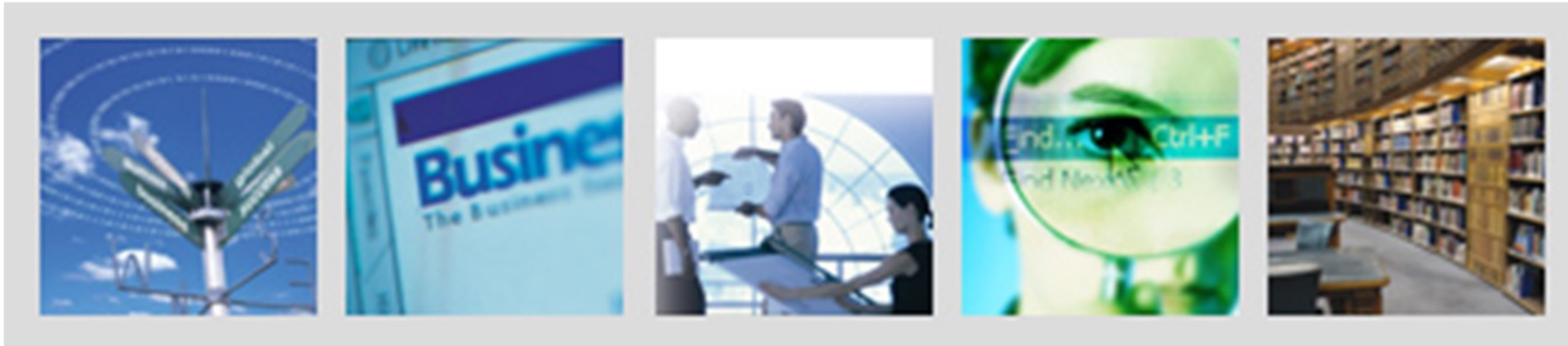
TACIT KNOWLEDGE

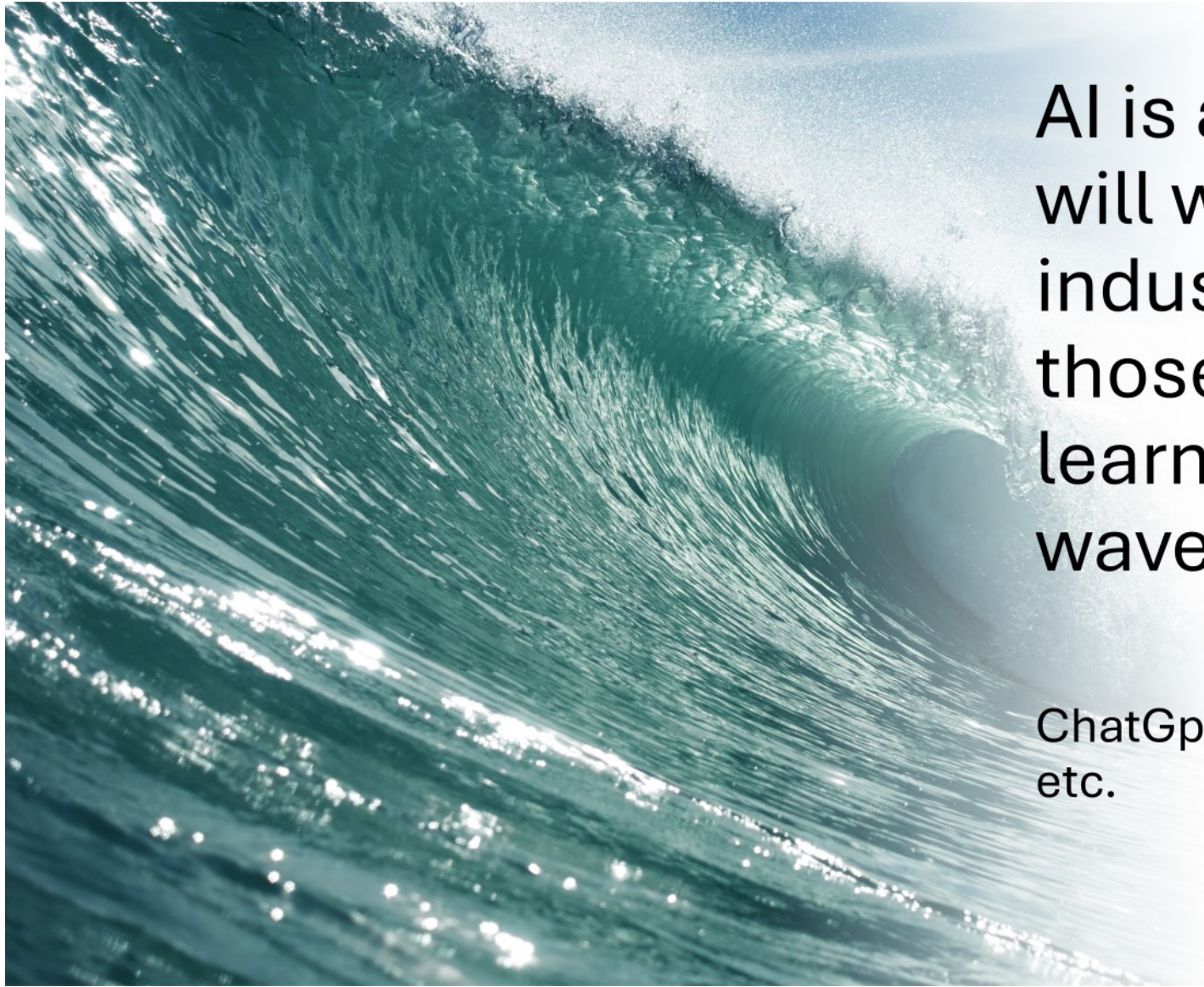
Visit www.PEDIAA.com

EXPLICIT KNOWLEDGE	TACIT KNOWLEDGE
Explicit knowledge refers to the most easily accessible and recorded knowledge	Tacit knowledge is a result of the personal and first-hand experiences we come across
Articulation is comparatively unchallenging	Extremely difficult to communicate
Codified in our surroundings in various forms: in documents, books, memos, reports, etc.	Acquired basically through experiences, and contains personal institutions and insights
Easy to document	Documentation is quite challenging
Structured	Personal



Digitisation





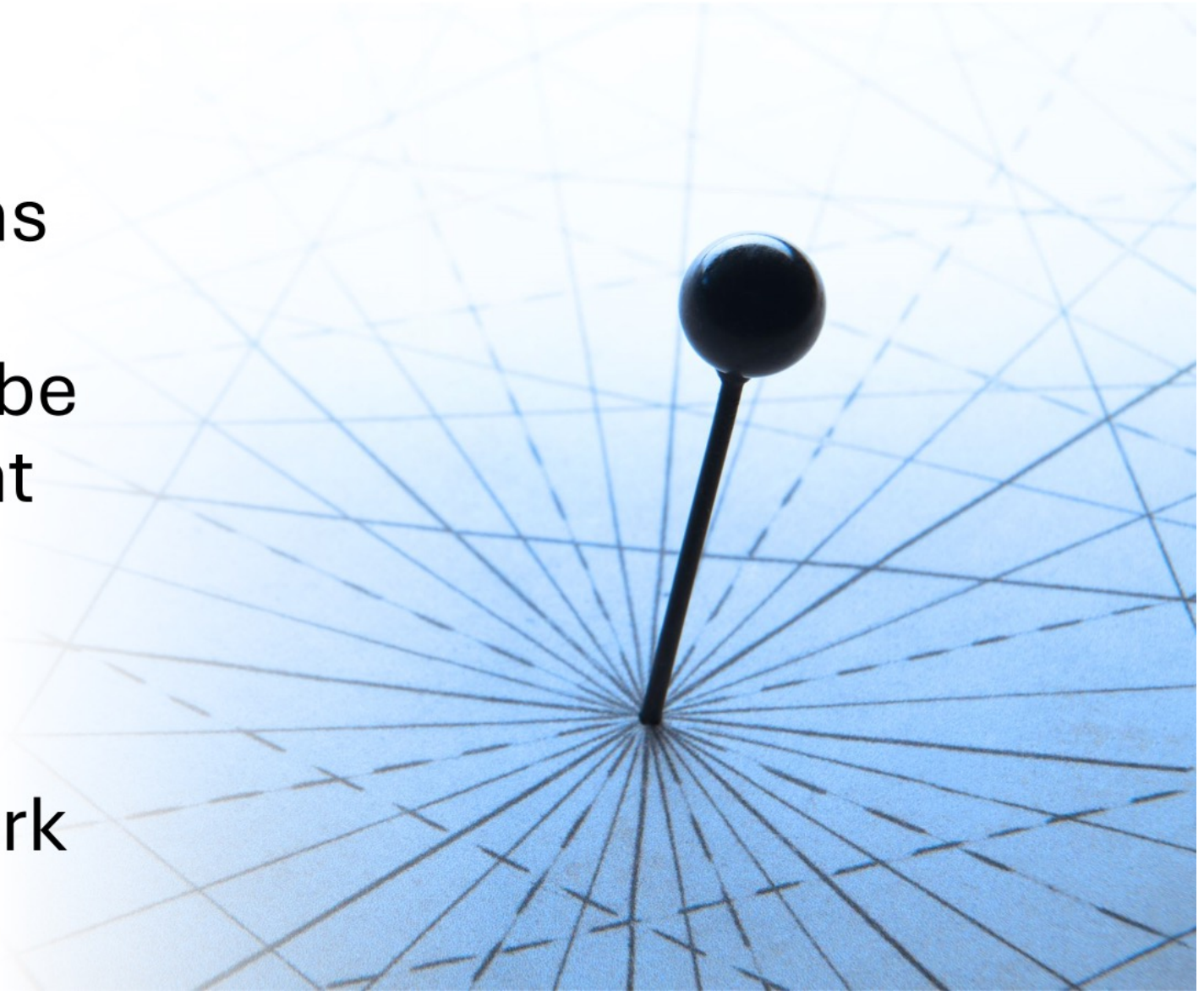
AI is a tidal wave. It will wash over many industries drowning those that do not learn to swim in its waves.

ChatGpt, Tome, Jenni.AI, Visla etc.






AI is global,
personal,
interactive,
low cost and
growing at
the speed of
light

Successful organisations of the next decade will be the ones that use digital tools to reinvent the way they work



ExOs: Everything will become digital

Past	Present	Future
 <p>Marketing, sales & service</p> <ul style="list-style-type: none">• social, mobile & online for front-end functions	 <p>Production & Manufacturing</p> <ul style="list-style-type: none">• nanotech, robotics, 3D printing, sensors, AI	 <p>Innovation & Supply</p> <ul style="list-style-type: none">• crowdsourcing (leveraging the crowd), DIY*, P2P**, crowd companies, AI, Nanofactories

*Do-it-Yourself: Movement of people who create things without the help of experts or professionals
**Peer-to-Peer: a decentralized network leveraging direct interactions between people



People anywhere will be able to take the best courses taught by great teachers.

BILL GATES

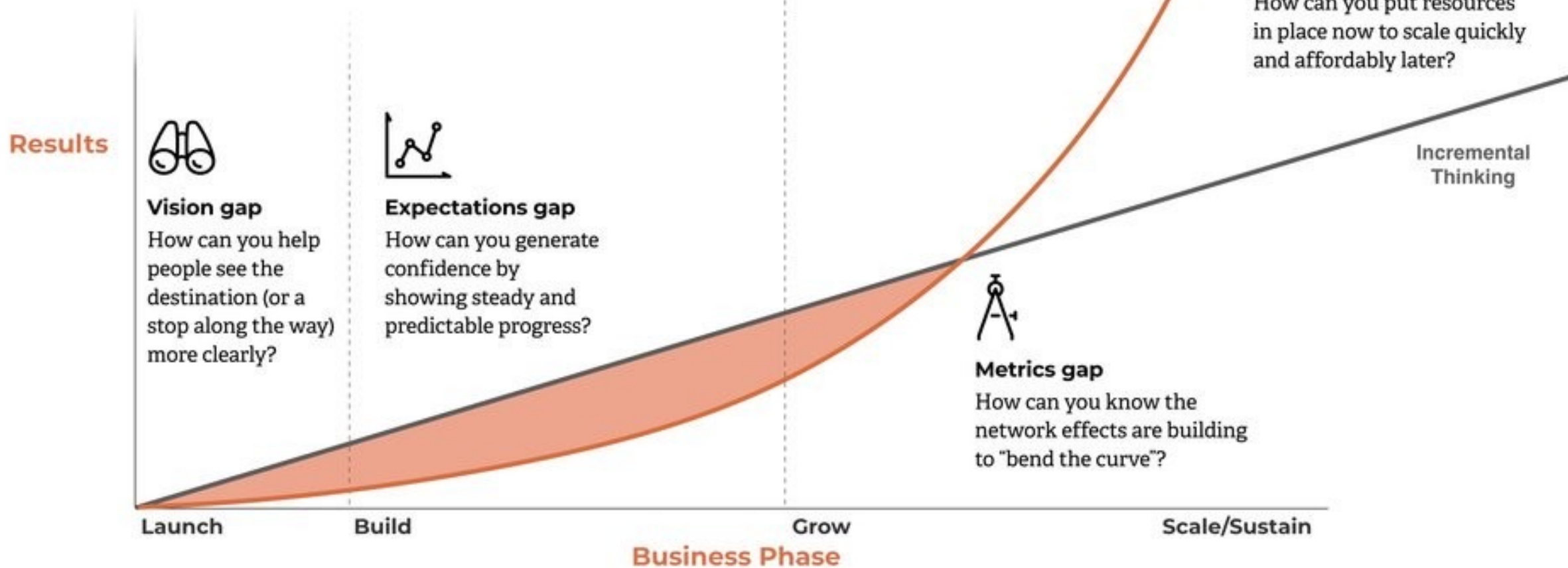
EXPONENTIAL ORGANIZATIONS

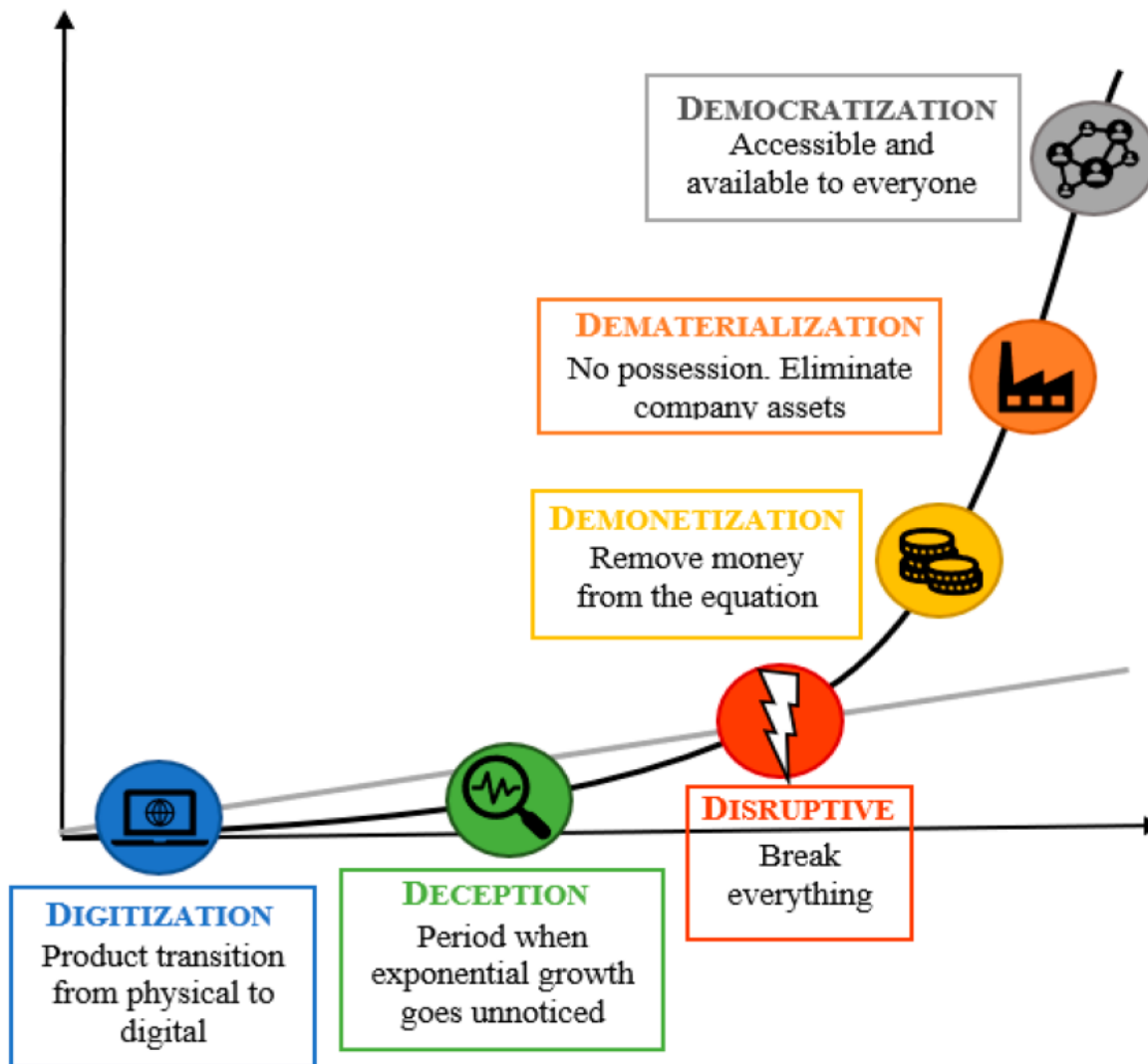


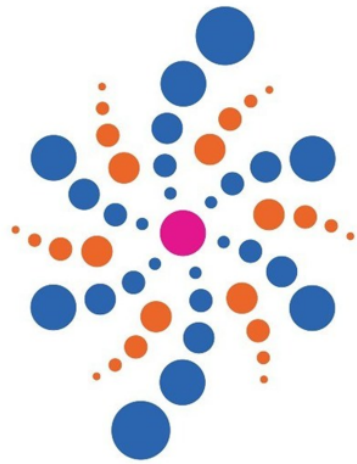
Mind the Gaps

Like people, organizations have a hard time thinking and operating exponentially.

Here are four places where things tend to go off track and slip back into the incremental. Don't worry about trying to answer these questions; we'll talk more about each gap next.







Singularity

U N I V E R S I T Y

Preparing humanity for accelerated technological change



Dan Barry, MD
(Space; AI, Robotics)
NASA astronaut;
Head of Faculty



Neil Jacobstein
(AI, Robotics)
AI CEO, Visiting
Scholar Stanford



Daniel Kraft, MD
(Medicine)
Stem cell Biology,
Stanford



Ralph Merkle, PhD
(Nanotechnology)
Inst. for Molecular
Manufacturing



Brad Templeton
(Computer &
Networks)
Chairman EFF



Raymond McCauley
(Biotechnology)
CSO-Genomera;
Founder -BioCurious



Andrew Hessel
(Biotechnology)
Co-Founder Pink
Army Cooperative



Robert Freitas
(Nanotechnology)
Inst for Molecular
Manufacturing



Marc Goodman
(Policy Law &
Ethics)
Futurist for FBI



David S. Rose
(Finance)
CEO Gust, Chair NY
Angels



Gregg Maryniak
(Energy)
Founding Exec. Dir
XPrize Found.

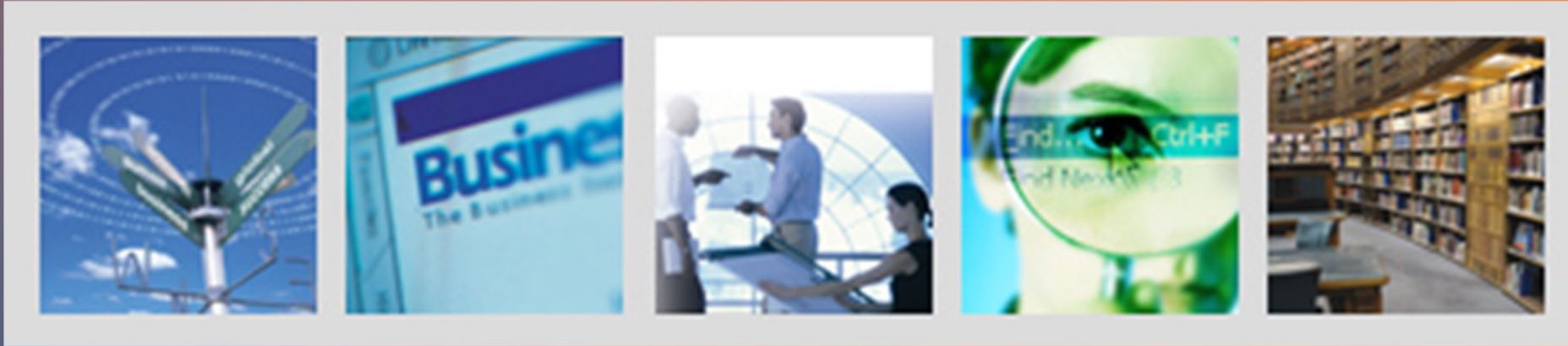


Jonathan Knowles
(Design)
Senior Advisor
Autodesk; Apple

singularityu.org

Research





Postgraduate student supervision

PhD attributes



- Writing
- Curiosity
- Research
- Resilience
- Adaptability
- Collaboration
- Data analysis
- Ability to learn
- Communication
- Critical thinking
- Problem solving
- Expert knowledge
- Time Management
- Project Management

Self directed learning attributes



- Writing
- Curiosity
- Research
- Resilience
- Adaptability
- Collaboration
- Data analysis
- Ability to learn
- Communication
- Critical thinking
- Problem solving
- Expert knowledge
- Time Management
- Project Management



Thank you for your attention !!

eugencloete@sun.ac.za

1. Our processes and systems dumify our students – reference to multiple intelligence model – raising expectations, chemistry professor story.
2. Value proposition – lecture period length, traditional assessment (we have perfected the imperfect system and will fail you with a 49,9 mark, make the point about vocational training and DHEP (work integrated learning), demise of the Bachelors degree. Cell phone analogy.
3. Digitalisation – commodification, demonitisation and democratization of education (Bill gates slide, Singularity university and Exponential organization slide)
4. Drop out rates - Certificates
5. Unemployment – Graduate attributes (slide of PhD attributes)
6. Entrepreneurship and creativity as a graduate attributes
7. Blooms taxonomy – AI (Chatgpt, Tome, Jenni AI and Visla)
8. Tacit knowledge
9. Too expensive
10. Bad representation of a good textbook
11. No more dropouts