



ConneXions

Connecting the dots with an interdisciplinary approach

WEBINAR – 11

REASSEMBLING EDUCATION IN THE DIGITAL AGE: MEDIA, COGNITION AND INSTITUTIONS

Saturday, June 20, 2020 | 5pm to 6pm IST

SPEAKER

Prof. Prateek Shah

Faculty - Computer Science, FLAME University

**Education is expected to
change radically with
digital media**



The current education
system is deeply rooted in
text

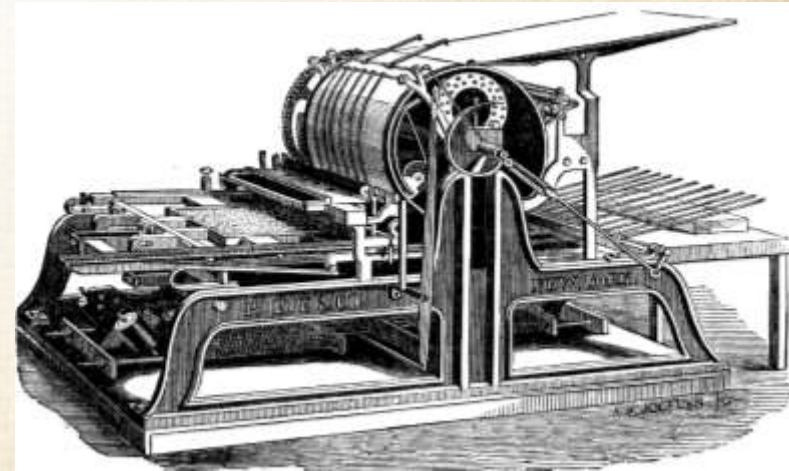
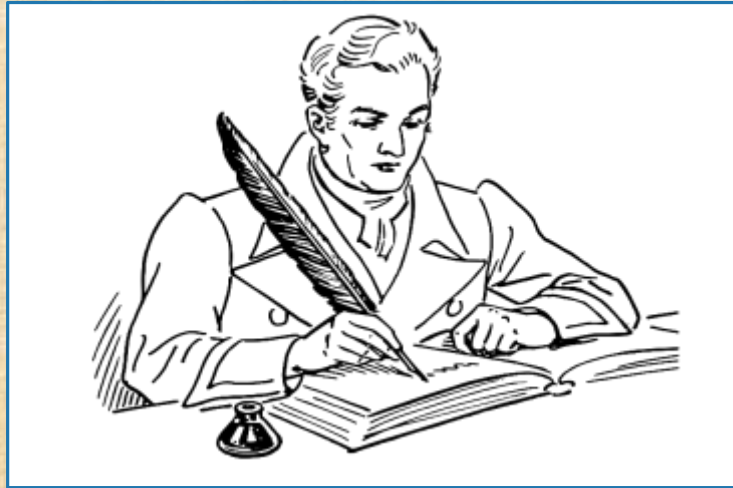


Potential and challenges
in moving education to
digital roots



Our minds and media are
intimately related

DIGITAL REVOLUTION HAS BEEN RAPID

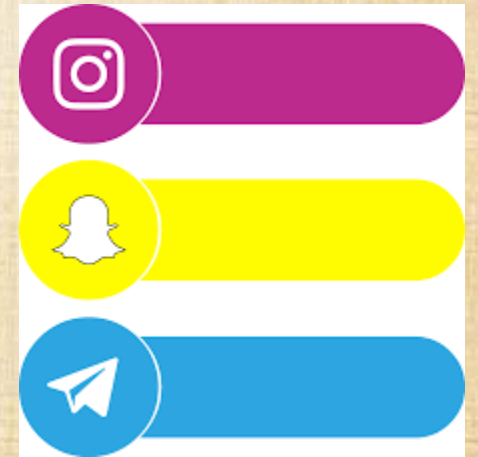
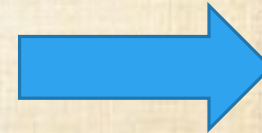
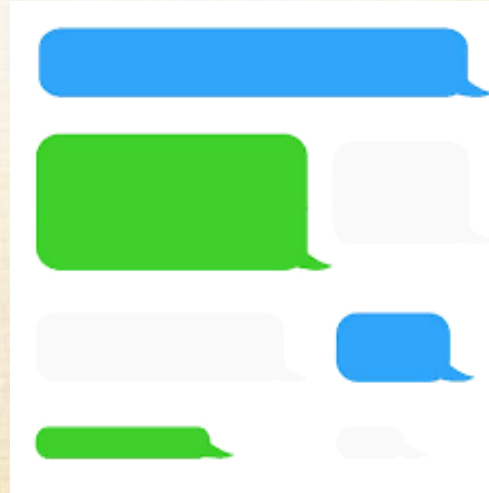
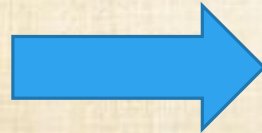


M I L L E N N I A

DECADES

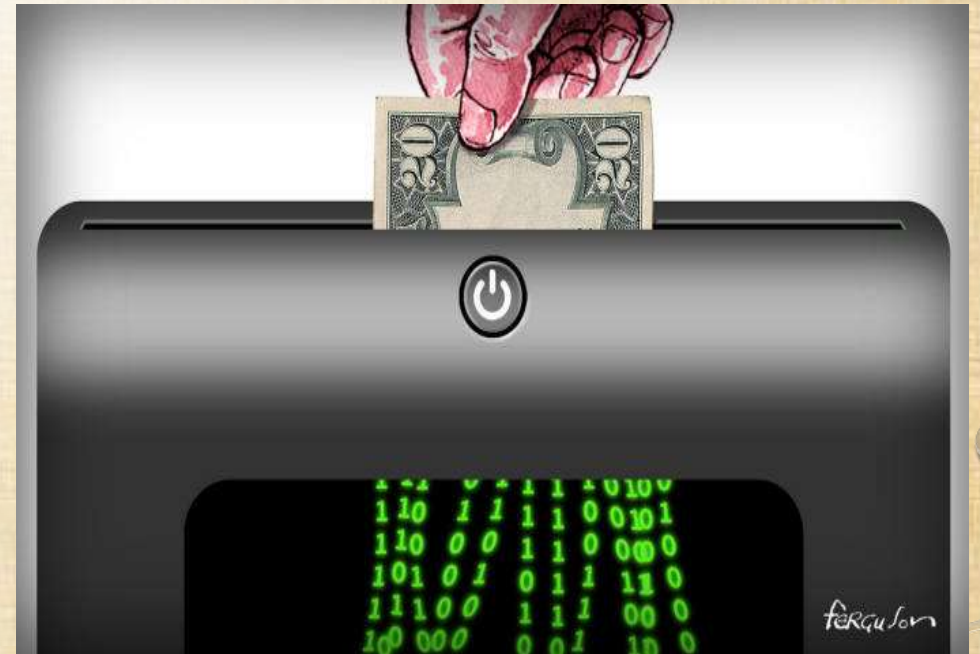
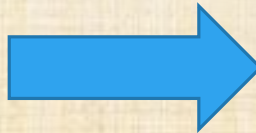


CHANGED THE WAY WE COMMUNICATE



MEDIA NOT JUST FOR COMMUNICATION

- FINANCE: COMMUNICATION CHANNEL TO OPERATING SYSTEM



Images: wikipedia.org; ft.com

EDUCATION IS A (VERY) COMPLEX SYSTEM

- GOALS OF EDUCATION ARE DEEPLY CONTESTED
- TRANSFORMS THE (DEVELOPING) MIND, WHICH WE DON'T UNDERSTAND
- PASSES ON INTRICATE KNOWLEDGE SYSTEMS BUILT ON TEXT

THE ANSWER TO DIGITAL LEARNING

- A VERY COMPLEX SYSTEM,
FACING RADICAL CHANGE
- IS LIKE “THE ANSWER TO LIFE,
THE UNIVERSE AND EVERYTHING”

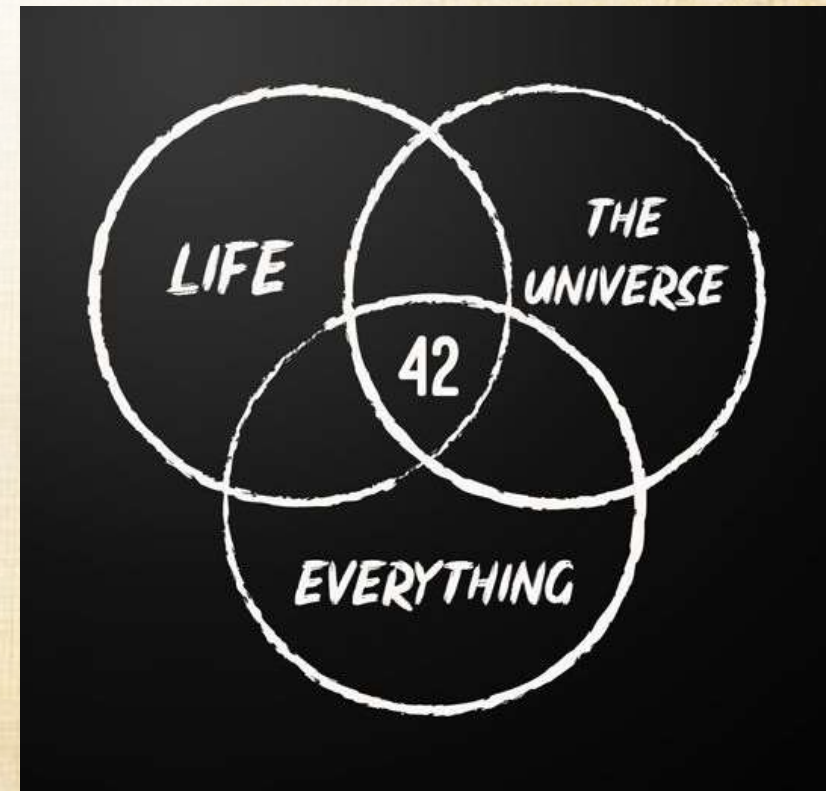


Image: www.rationalgear.com

THEN SOMEONE ASKED:
“BUT WHAT IS THE QUESTION?”

CAN WOOD MAKE GOOD HOUSES? (PAPERT, 1987)



THEME FOR TODAY

HOW MIGHT EDUCATION REASSEMBLE
FROM **TEXTUAL FOUNDATIONS** TO **DIGITAL ROOTS**,
CONSIDERING THE DEEP RELATIONSHIP BETWEEN
MEDIA, COGNITION AND INSTITUTIONS?

Education is expected to
change radically with
digital media



**The current education
system is deeply rooted
in text**

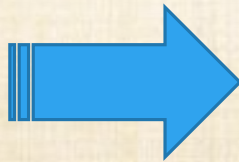


Potential and challenges
in moving education to
digital roots



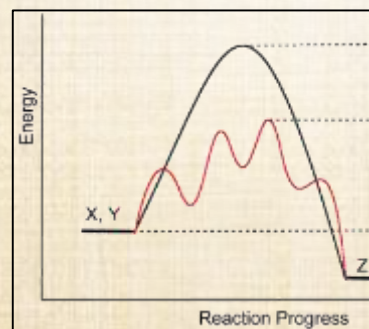
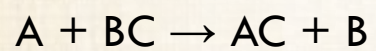
Our minds and media are
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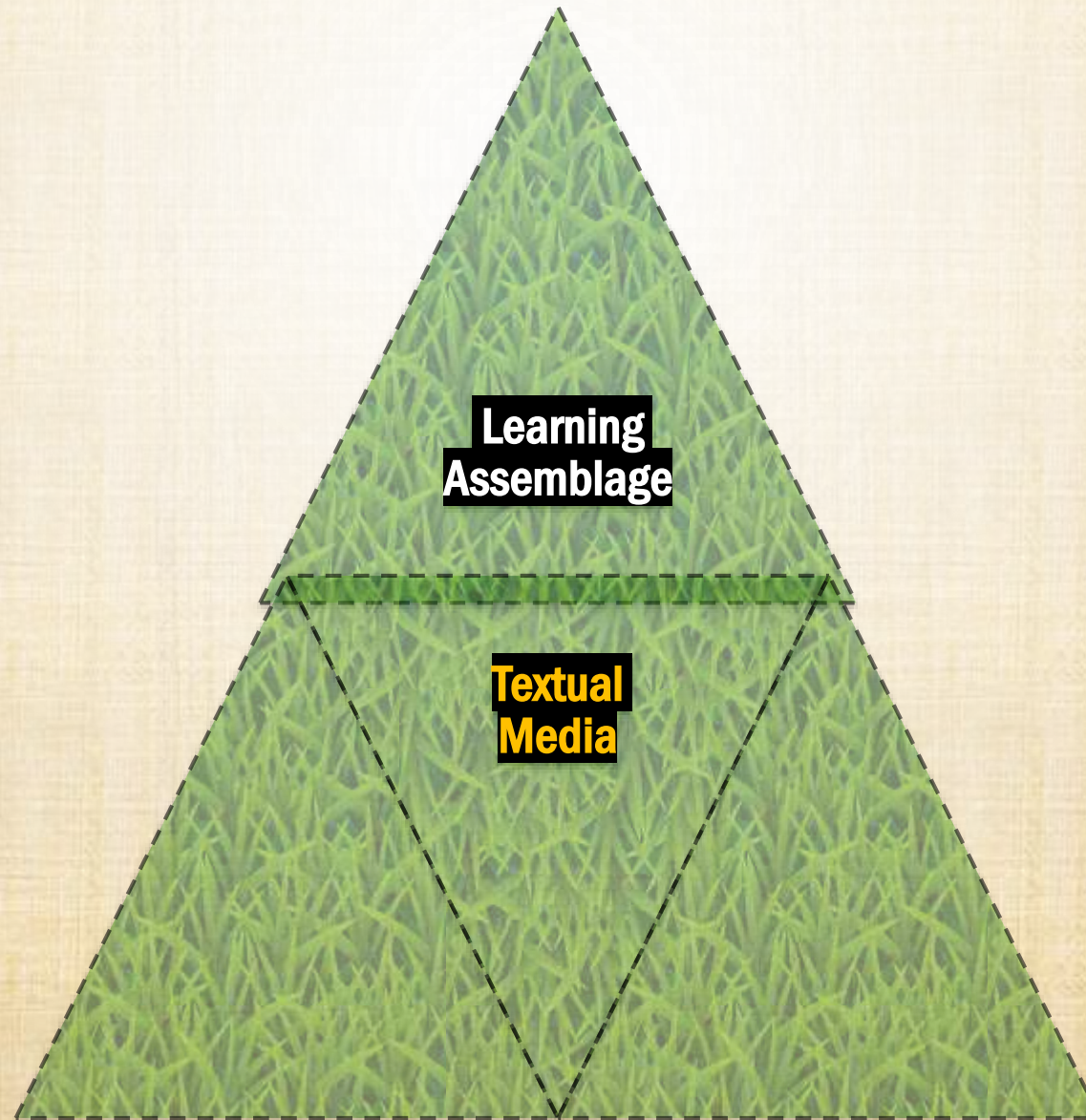
TEXT CENTRAL TO CLASSROOM (SALJO, 2010)

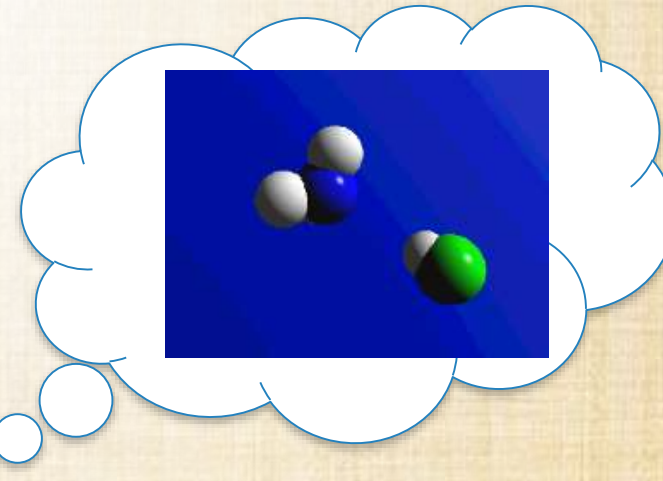
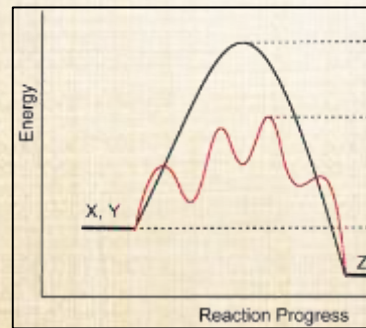
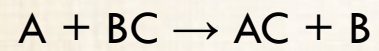
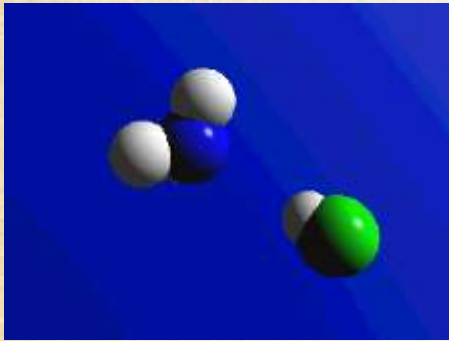


www.pinterest.com

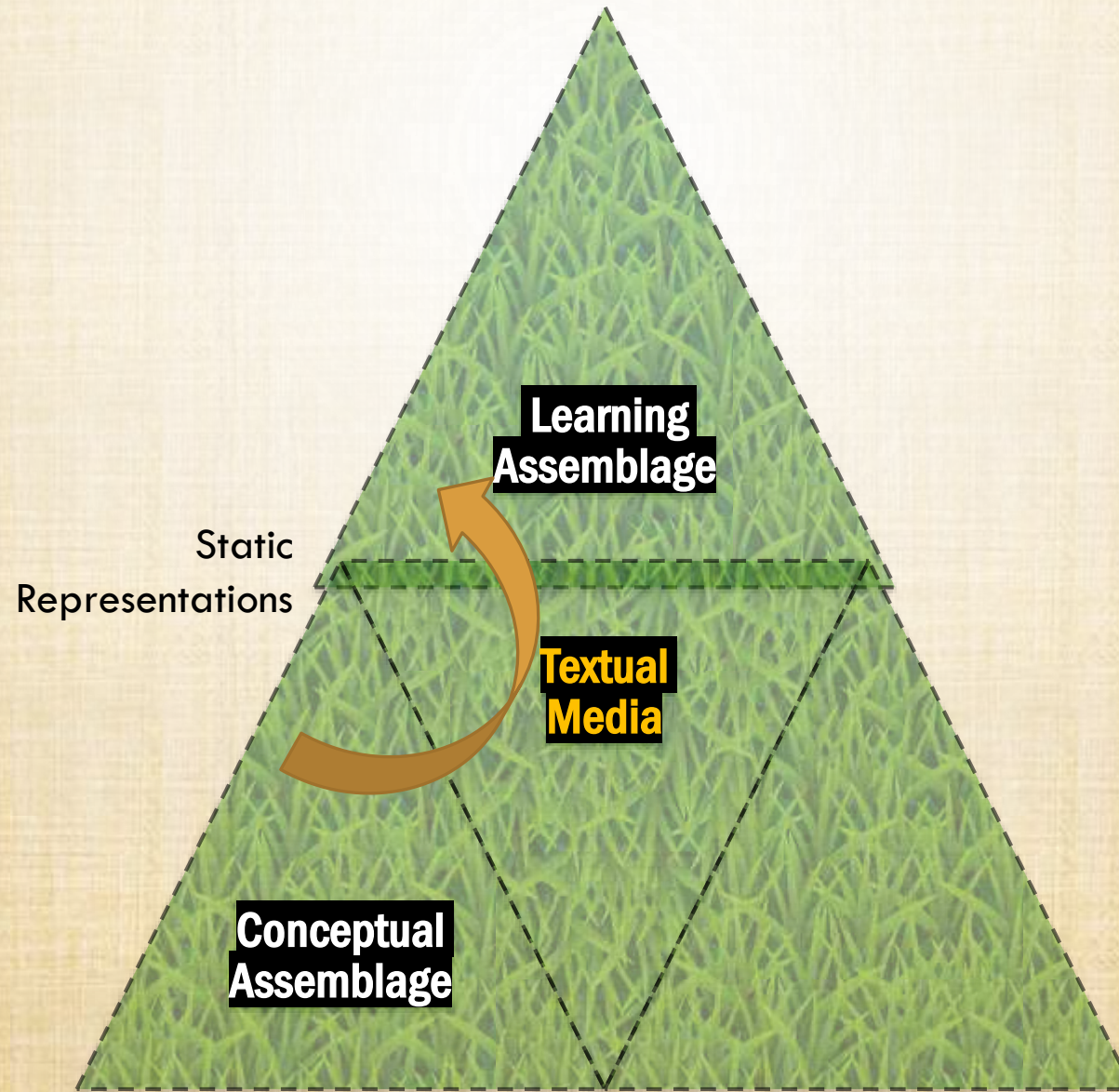
LEARN DYNAMIC
CONCEPTS FROM
TEXTUAL
REPRESENTATIONS

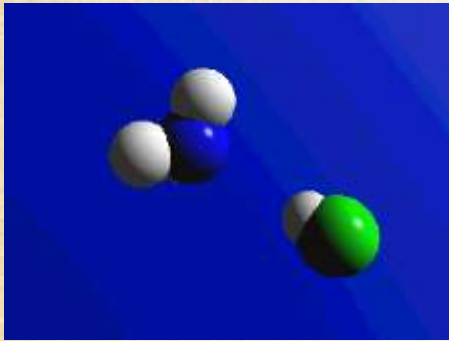




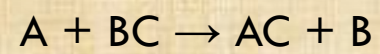
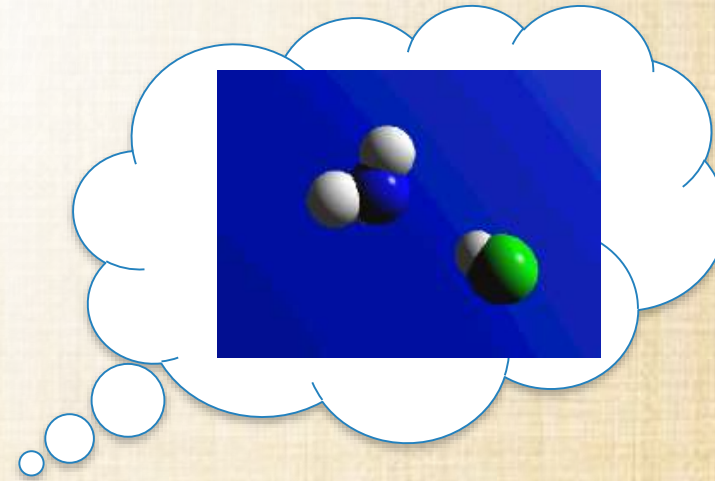
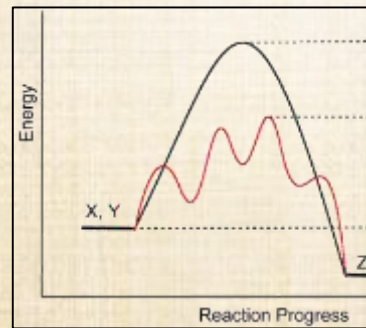
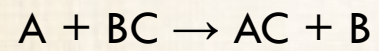


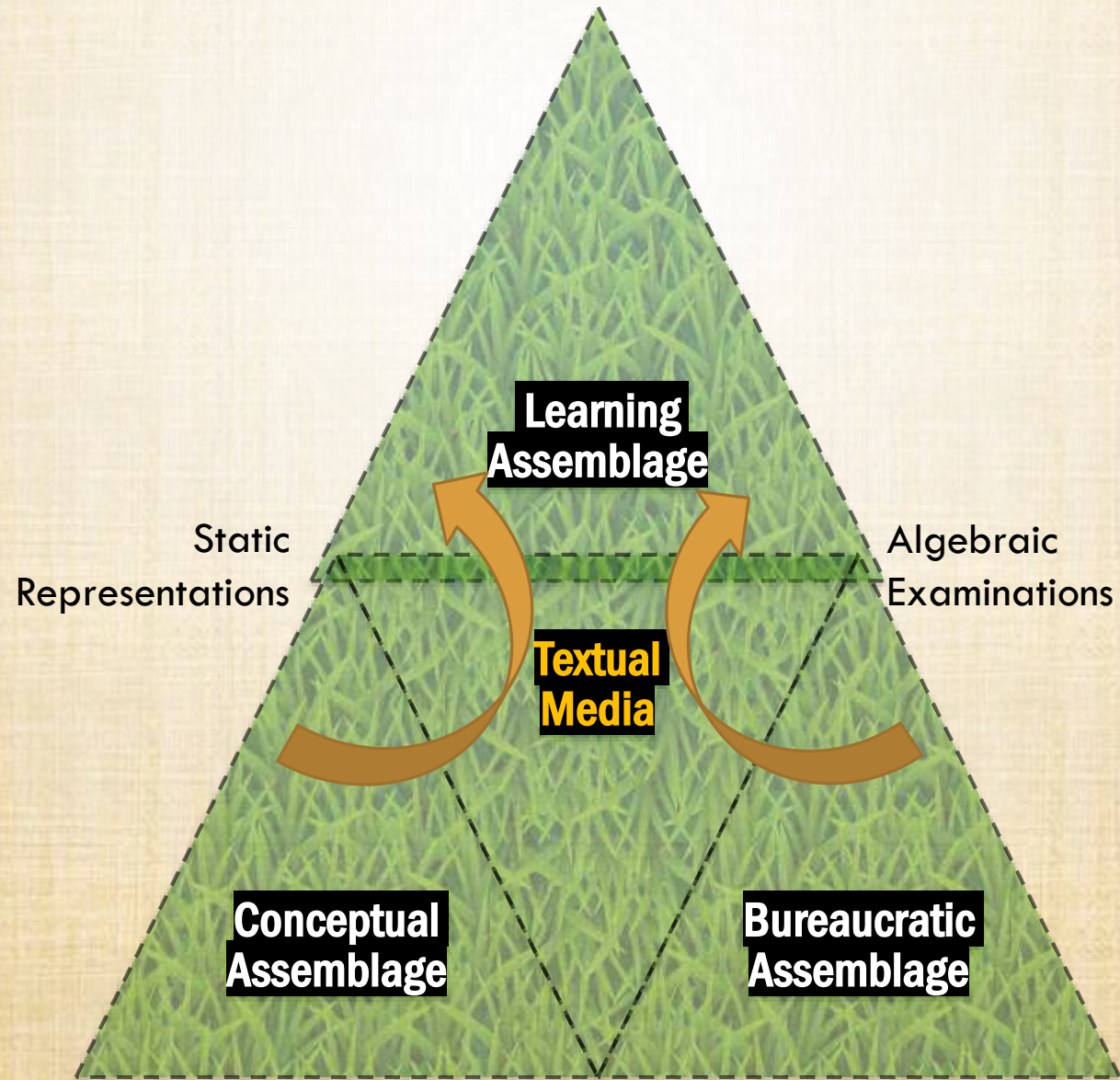
CONCEPTUAL
KNOWLEDGE
CAPTURES DYNAMIC
PROCESSES IN STATIC
REPRESENTATIONS



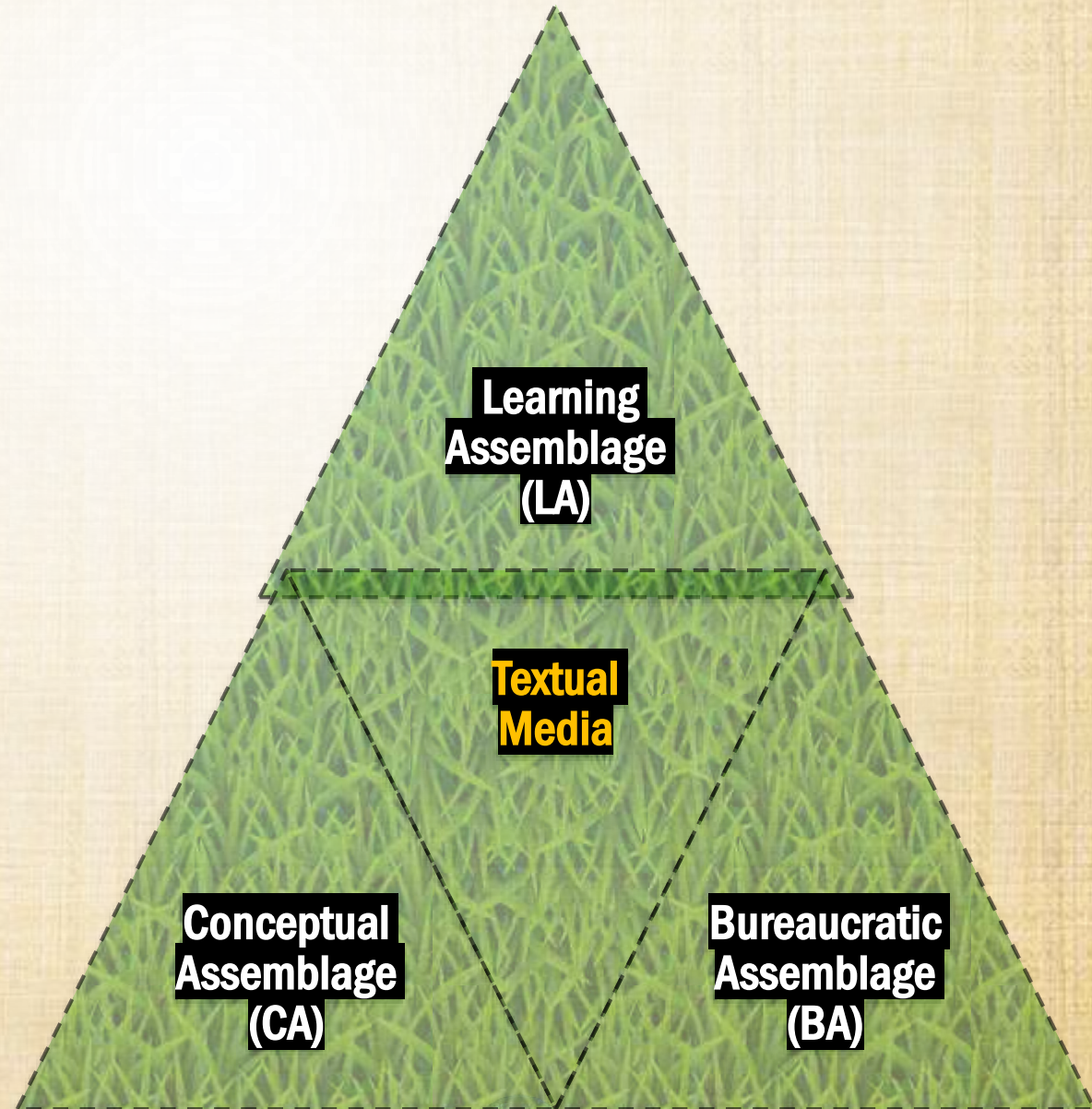


TEXTUAL EXAMINATIONS
LABEL THE LEARNING AS
'SUCCESSFUL'





TEXT-BASED EDUCATIONAL ASSEMBLAGE



Education is expected to
change radically with
digital media



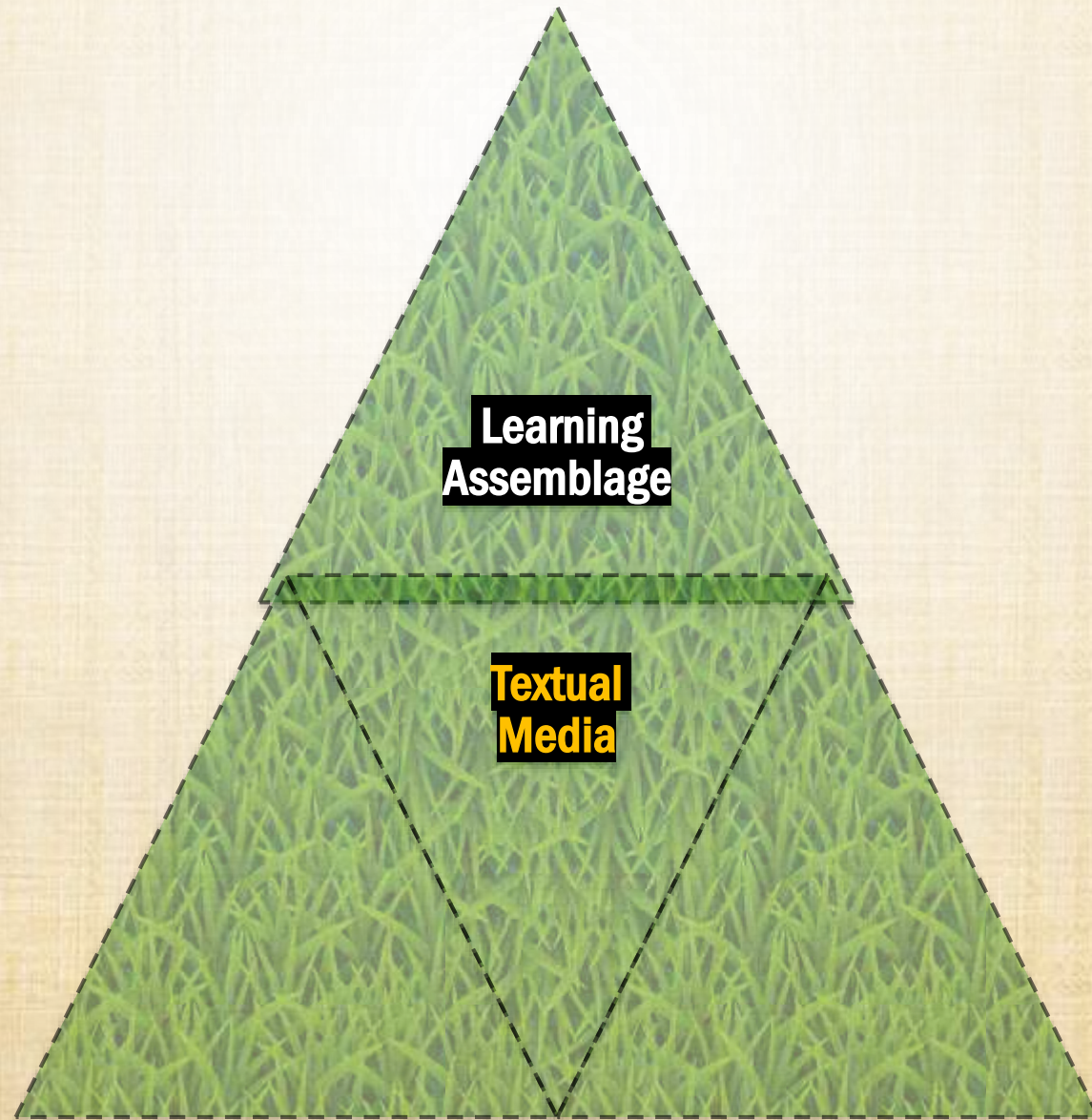
The current education
system is deeply rooted in
text



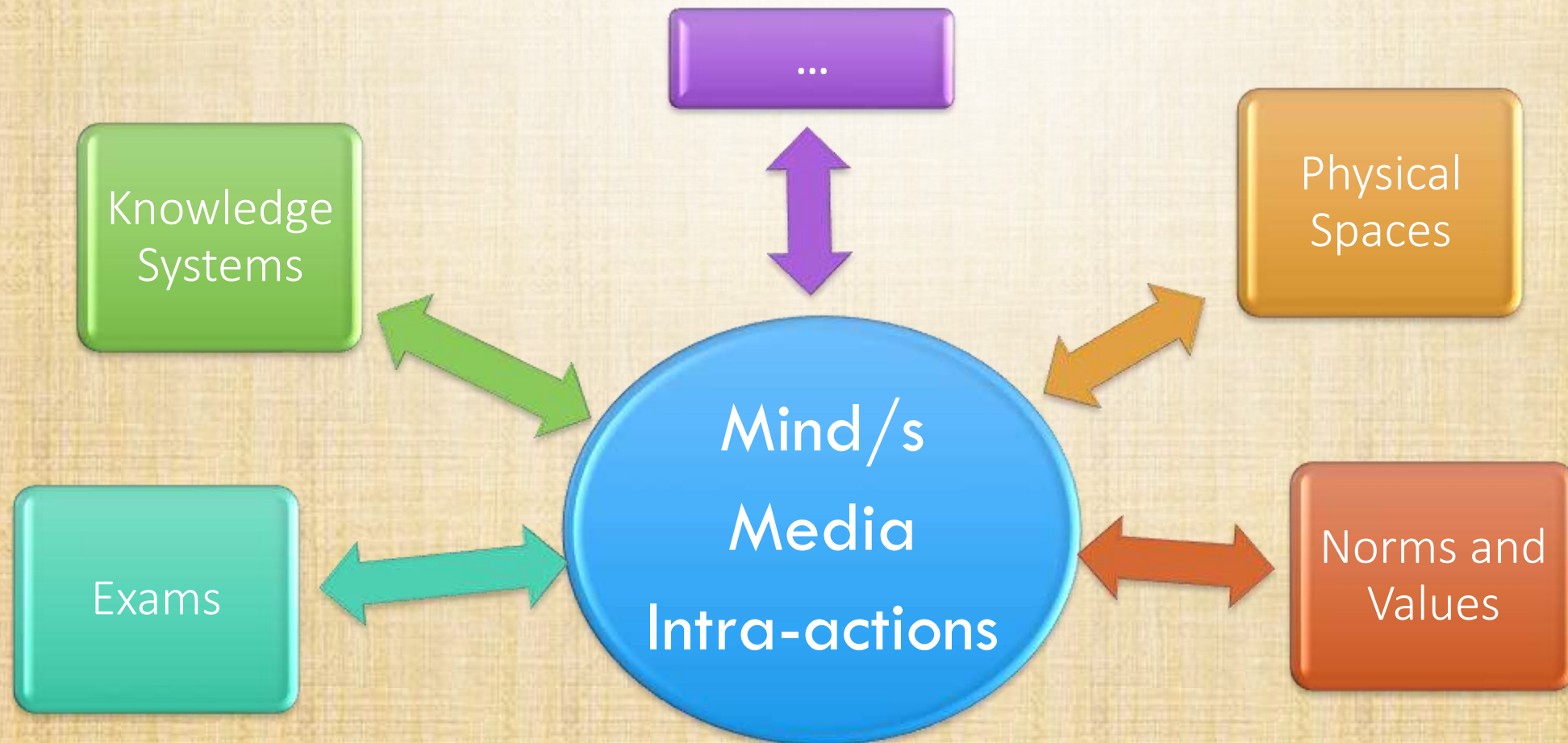
Potential and challenges
in moving education to
digital roots

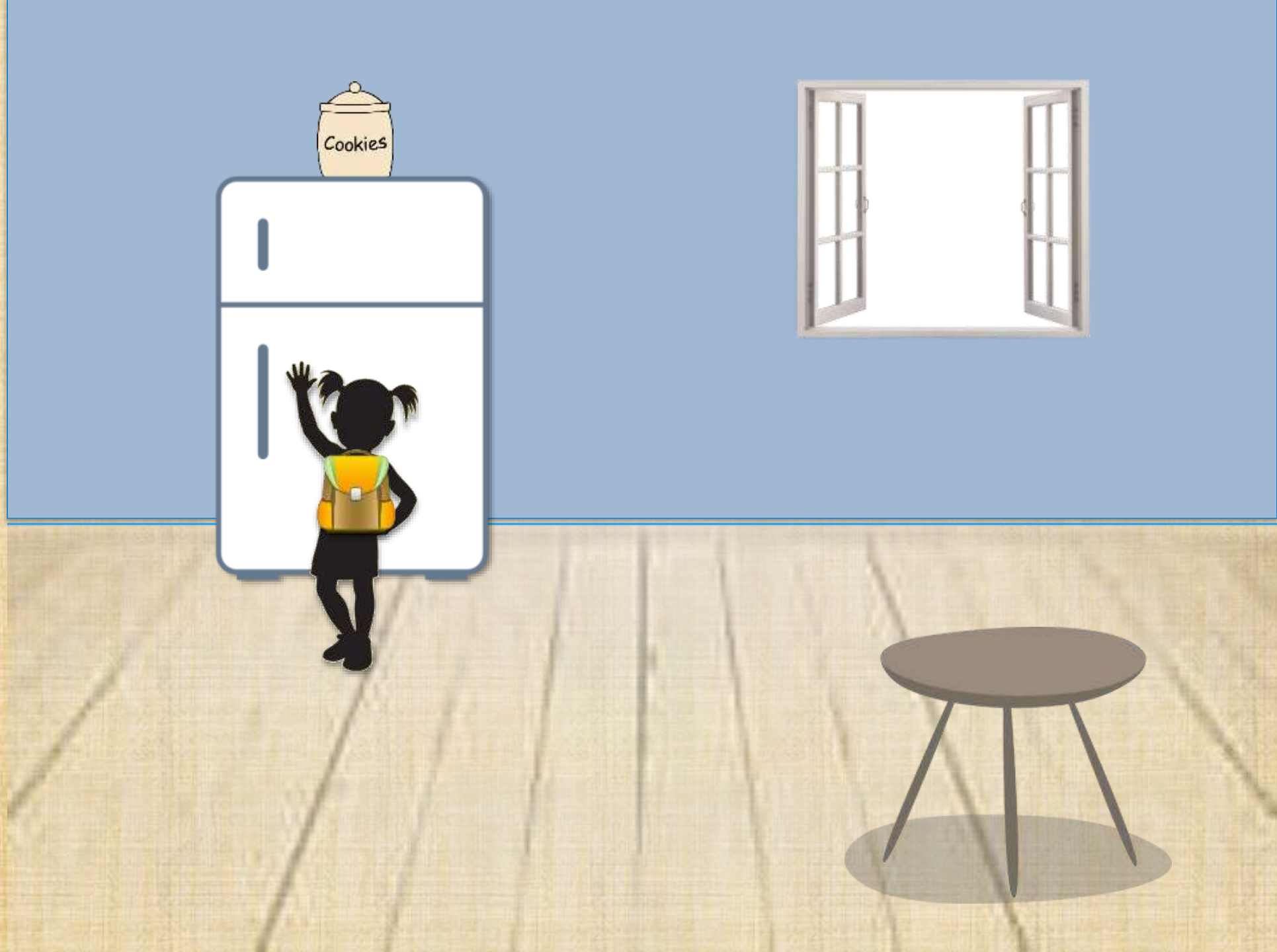


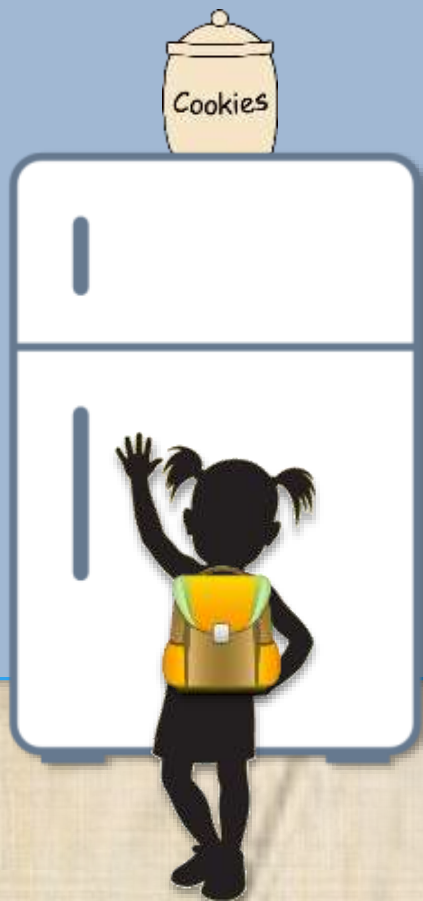
**Our minds and media
are intimately related**



MIND-MEDIA CENTRAL IN LEARNING

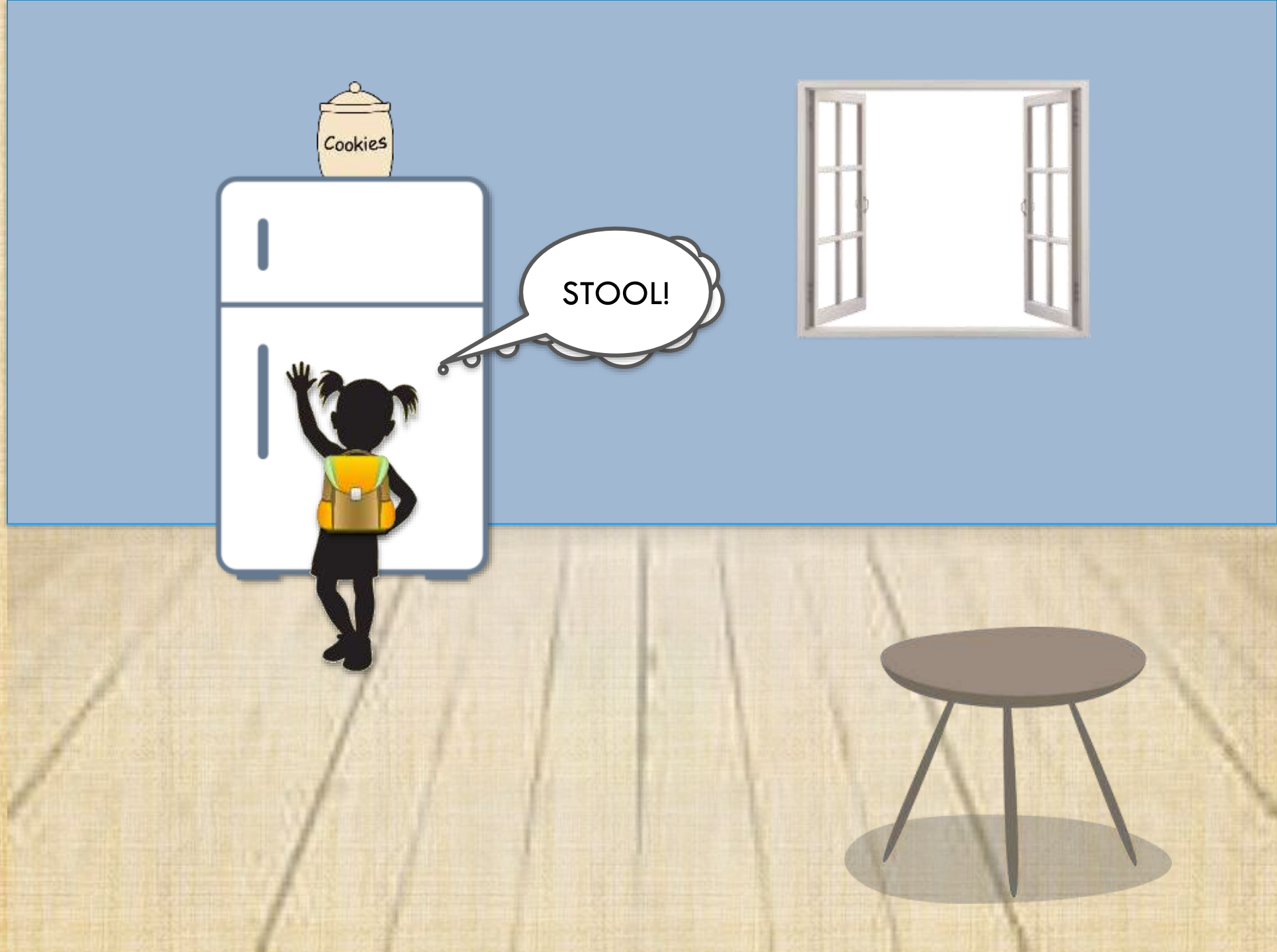






STOOL!





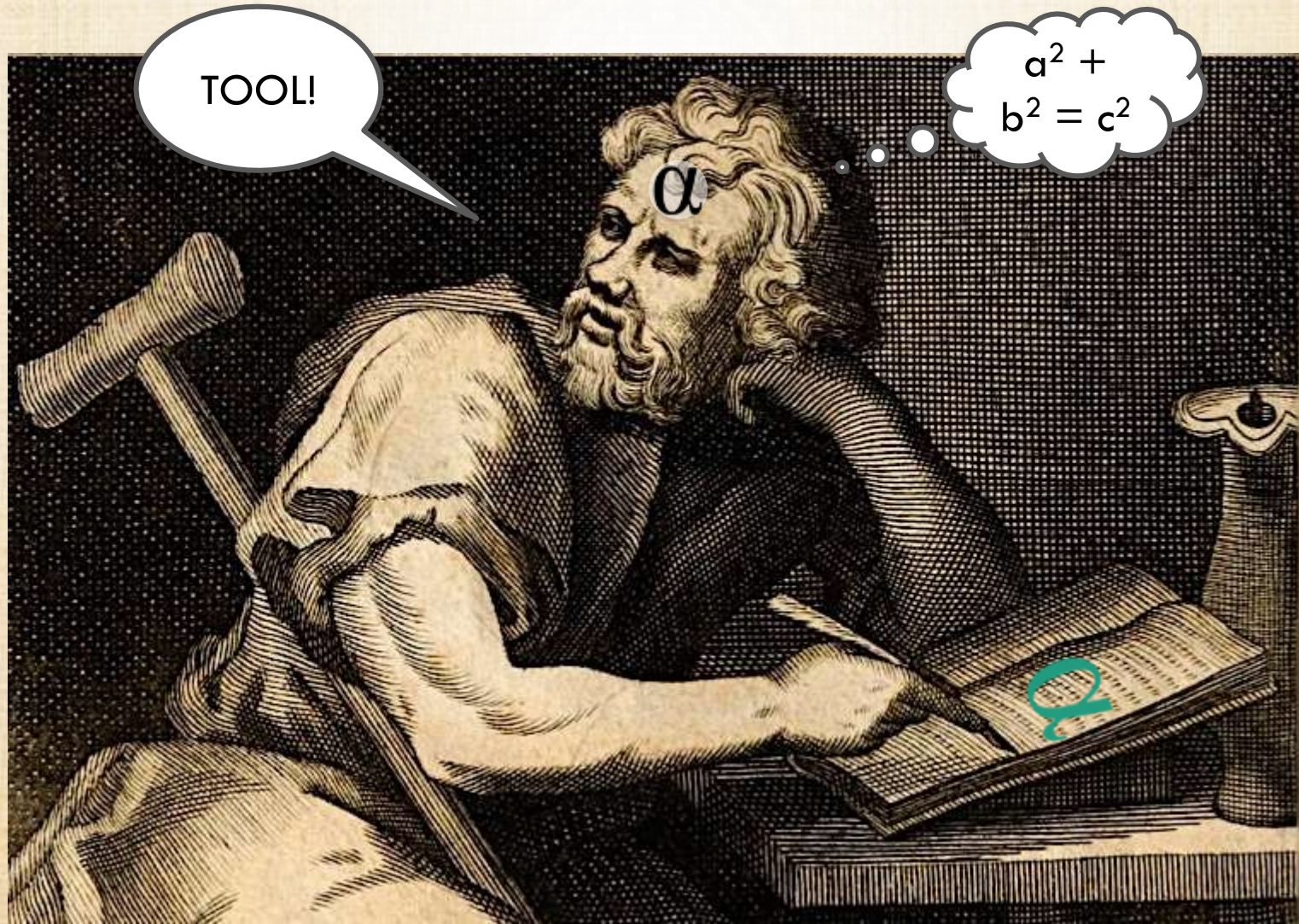
MEDIA AND COGNITION: NOT JUST TALK

- SPEECH EVENTUALLY INTERNALISED INTO THOUGHT
- LANGUAGE CRUCIAL FOR DEVELOPMENT OF 'UNIQUELY HUMAN INTELLECT'

MEDIA AND COGNITION: THE MIGHTY PEN

- EVEN THE ABILITY TO WRITE ALTERS US AS HUMAN BEINGS (ONG, 2013)
- DIFFICULT FOR LITERATES TO IMAGINE HOW MEMBER OF ORAL SOCIETY THINKS

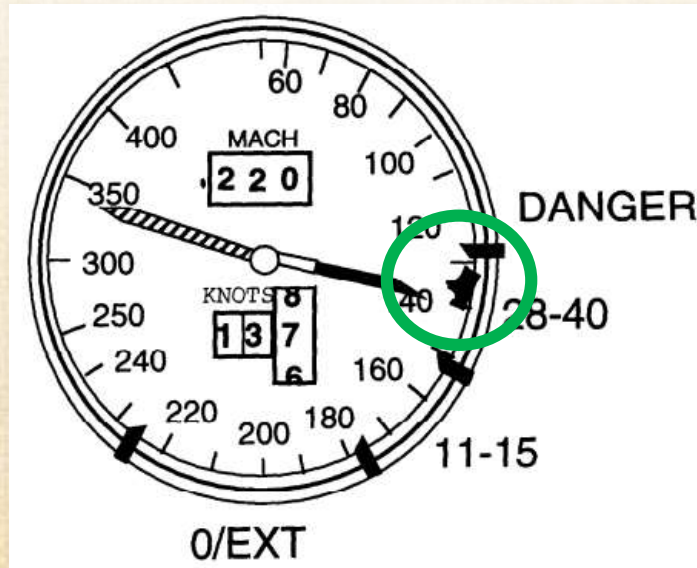
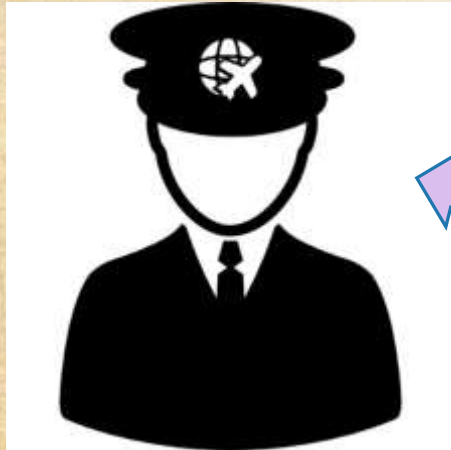


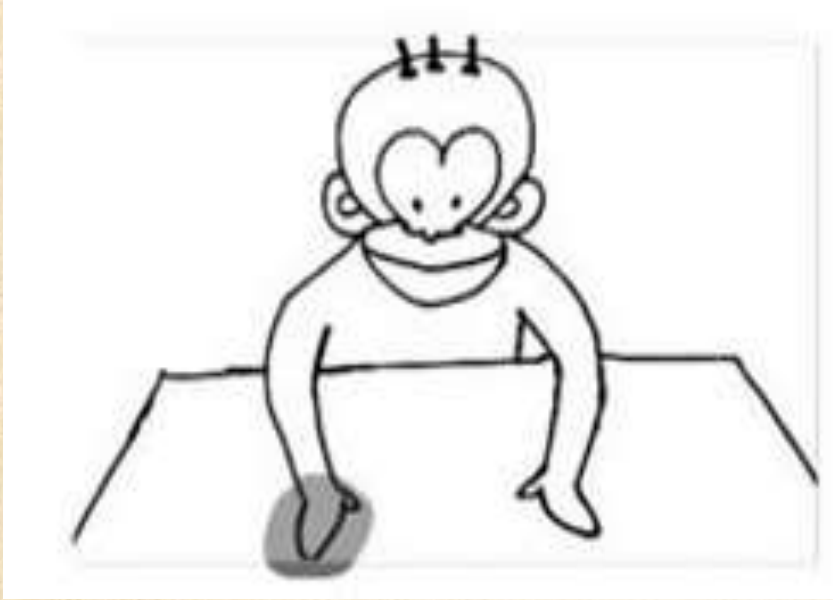


MEDIA AND COGNITION: HOW?

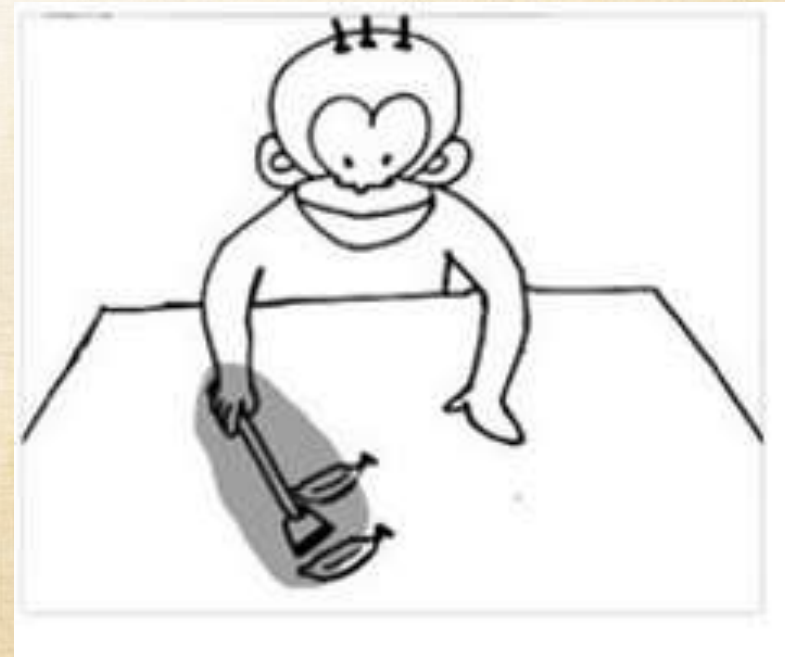
COGNITIVE SCIENCE CAN HELP UNDERSTAND HOW OUR
MINDS CHANGE SO POWERFULLY WITH MEDIA

DISTRIBUTED COGNITION (HUTCHINS, 1995)

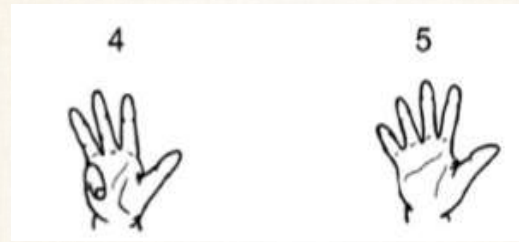




EXTENDED COGNITION (IRIKI ET AL., 1996)



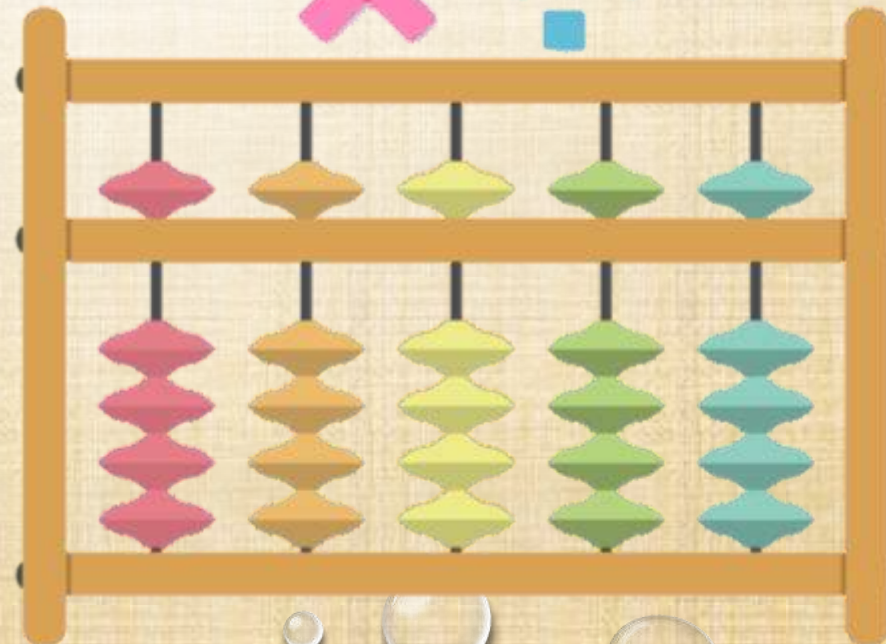
EMBODIED COGNITION (STIGLER, 1984; DOMAHS ET AL., 2010)



German

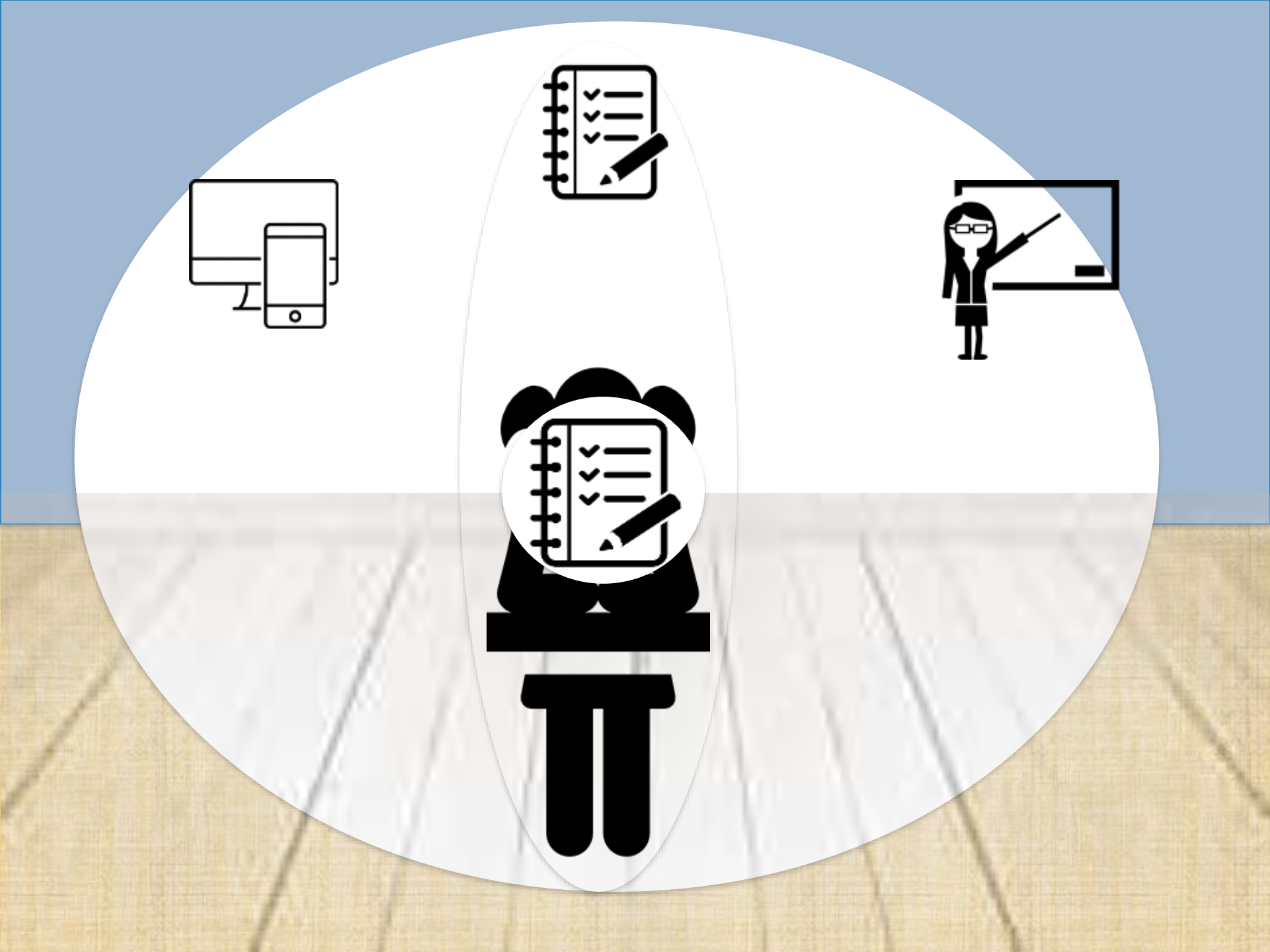


Chinese



MEDIA IN COGNITION

- ENABLES HUMANS AND MACHINES TO THINK TOGETHER IN POWERFUL NETWORKS
- EXTENDS OUR MENTAL CAPACITIES BEYOND OUR PHYSICAL BODIES
- BECOMES OUR INTERNALISED THOUGHTS – IS THE BASIS FOR HUMAN INTELLIGENCE



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change radically with
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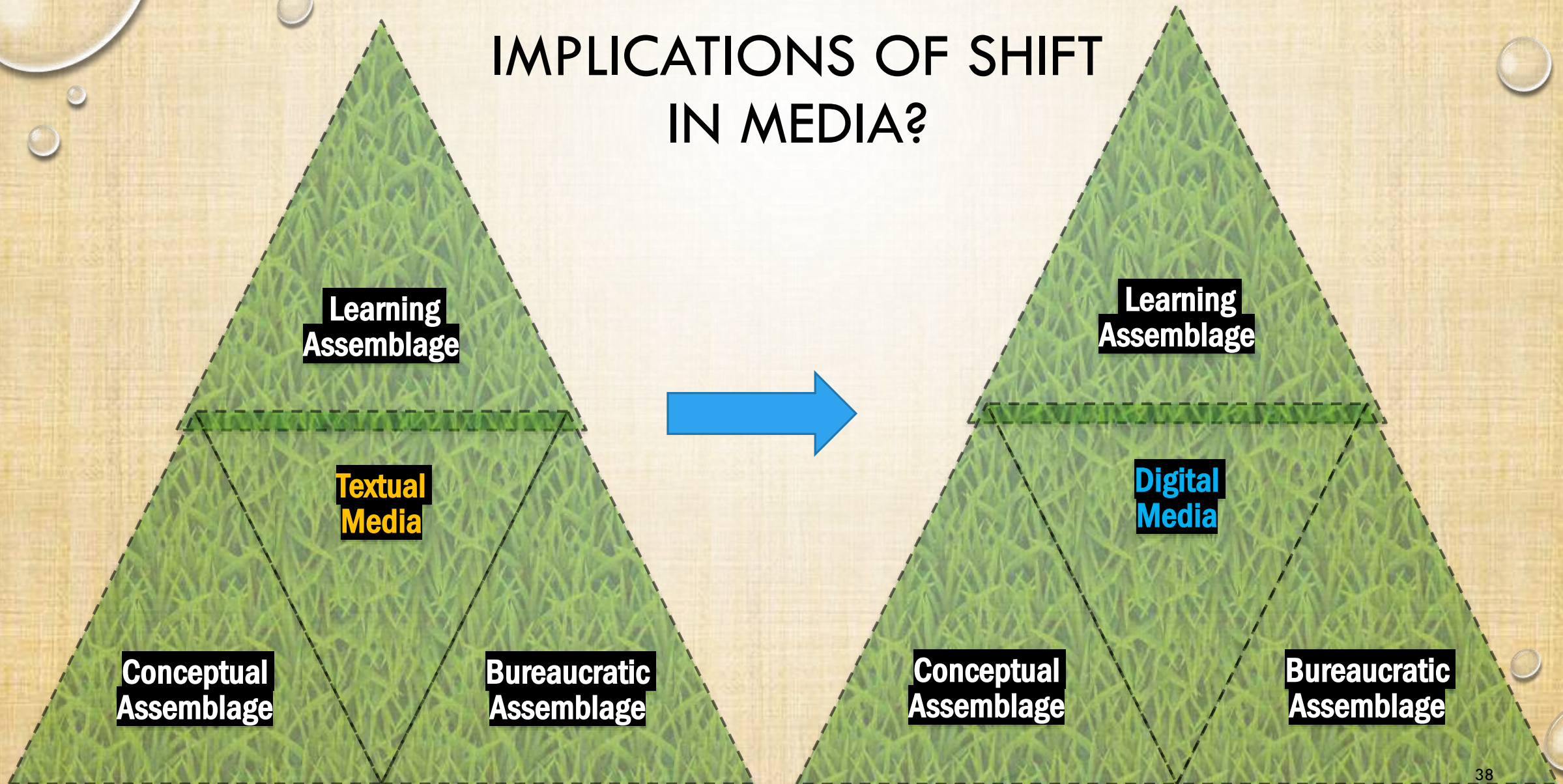


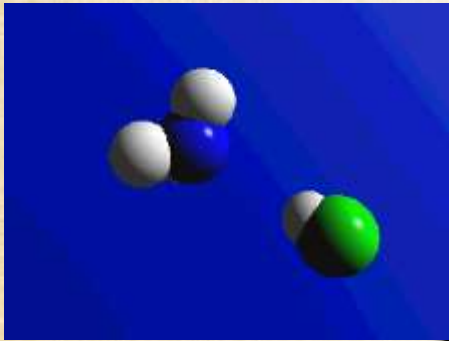
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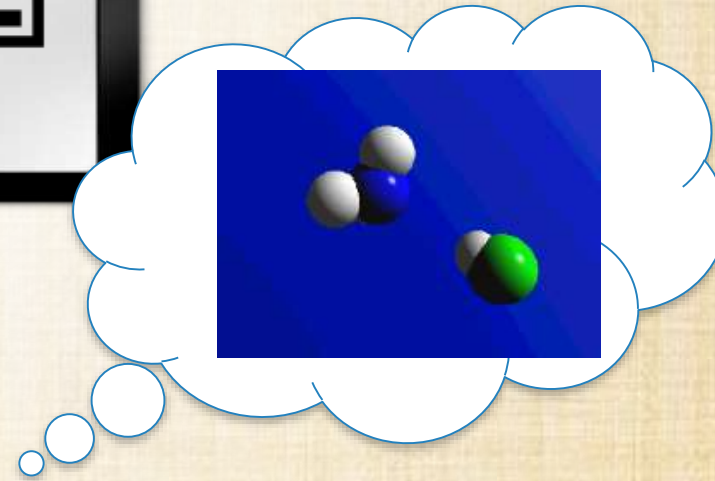
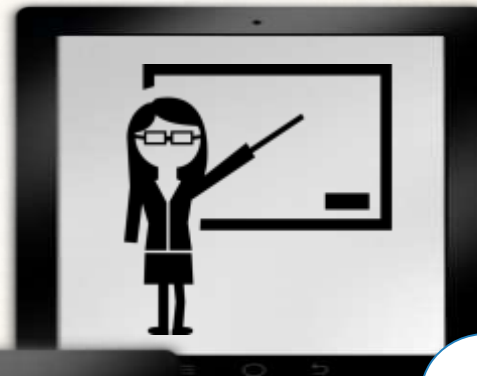
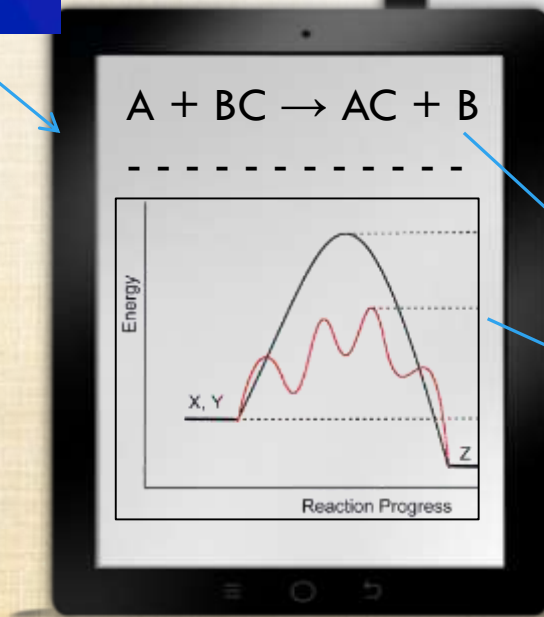
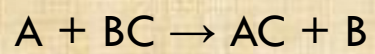
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intimately related

IMPLICATIONS OF SHIFT IN MEDIA?





WHAT WE ARE
CURRENTLY DOING
WITH DIGITAL MEDIA



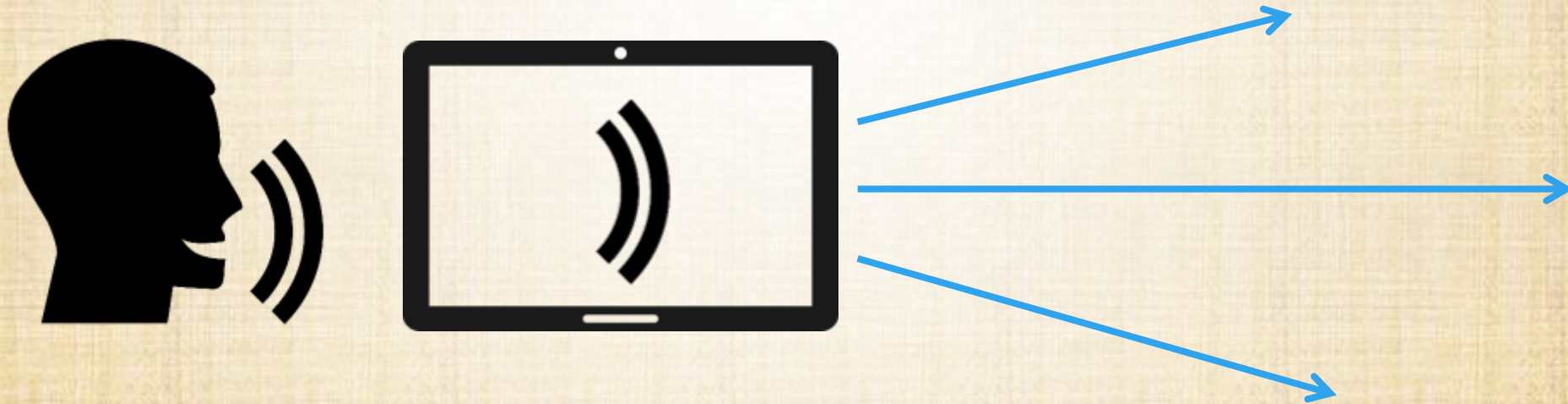


freepik.com

LONG-TERM: NEED TO BE **VISIONARY** AND AWARE THAT WE COULD BE HEADED INTO COMPLETELY UNKNOWN WORLDS!

SHORT-TERM: NEED TO BE **GROUND**ED – DEALING WITH A COMPLEX SYSTEM, AFFECTING ALMOST EVERYONE, TEXTUALLY ROOTED, WITH LIMITED RESOURCES AND EXTREME INEQUALITIES...

...BUT ALSO NEW POTENTIAL FOR INTERACTING WITH KNOWLEDGE



THE ANSWER TO DIGITAL LEARNING

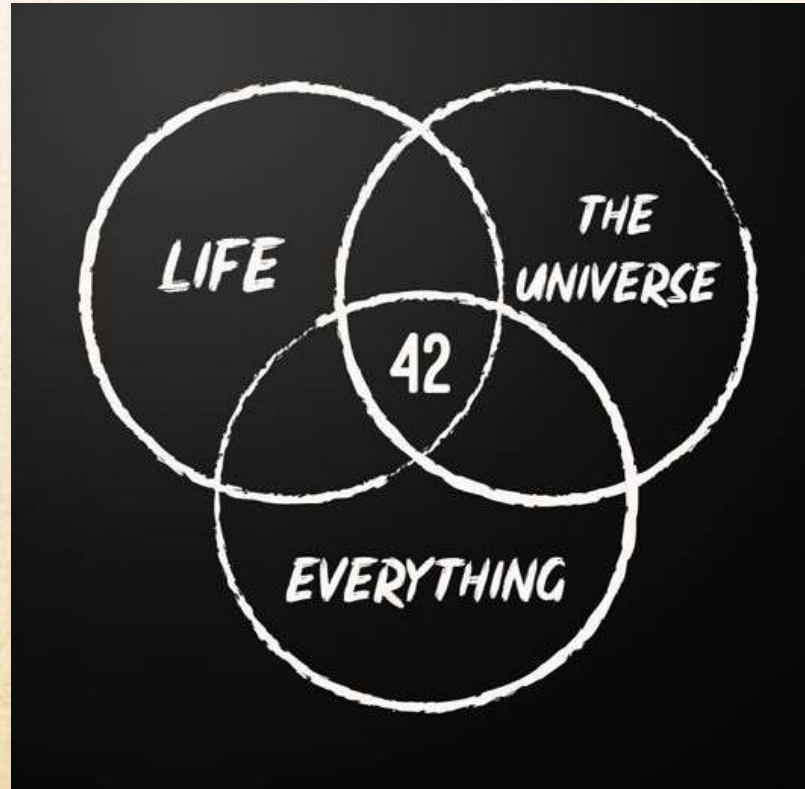


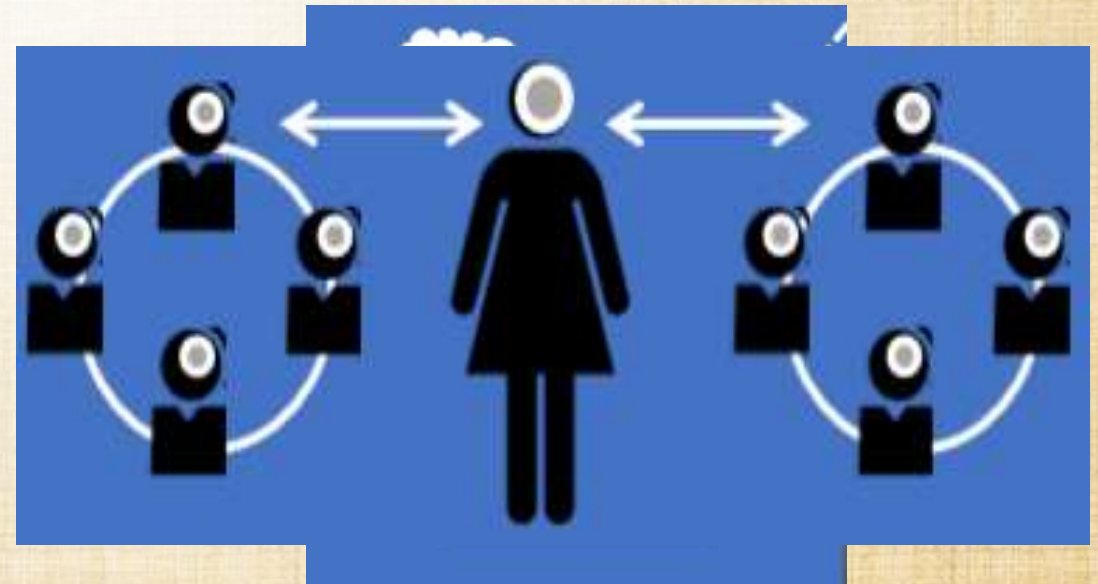
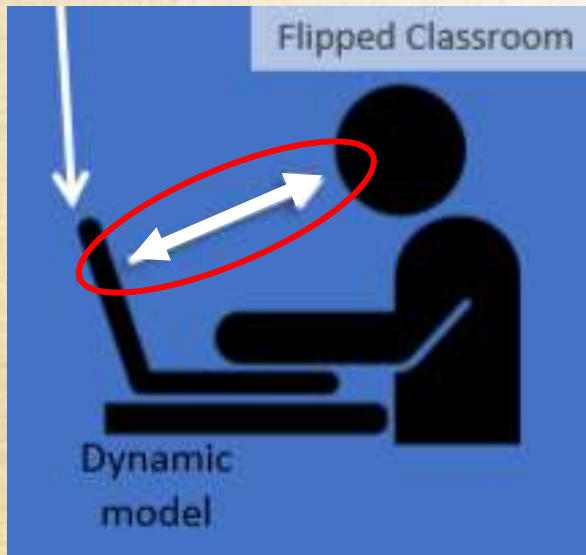
Image: www.rationalgear.com

SHORT-TERM: THE MAGIC WAND



- CAN WAVE IT AROUND, ROTATE IT – IT UNDERSTANDS!
- TOUCHSCREENS PROVIDE LOADS OF INTERACTIVITY
- SPREADING RAPIDLY ACROSS INDIAN HOUSEHOLDS

SHORT-TERM: FLIP THE CLASSROOM

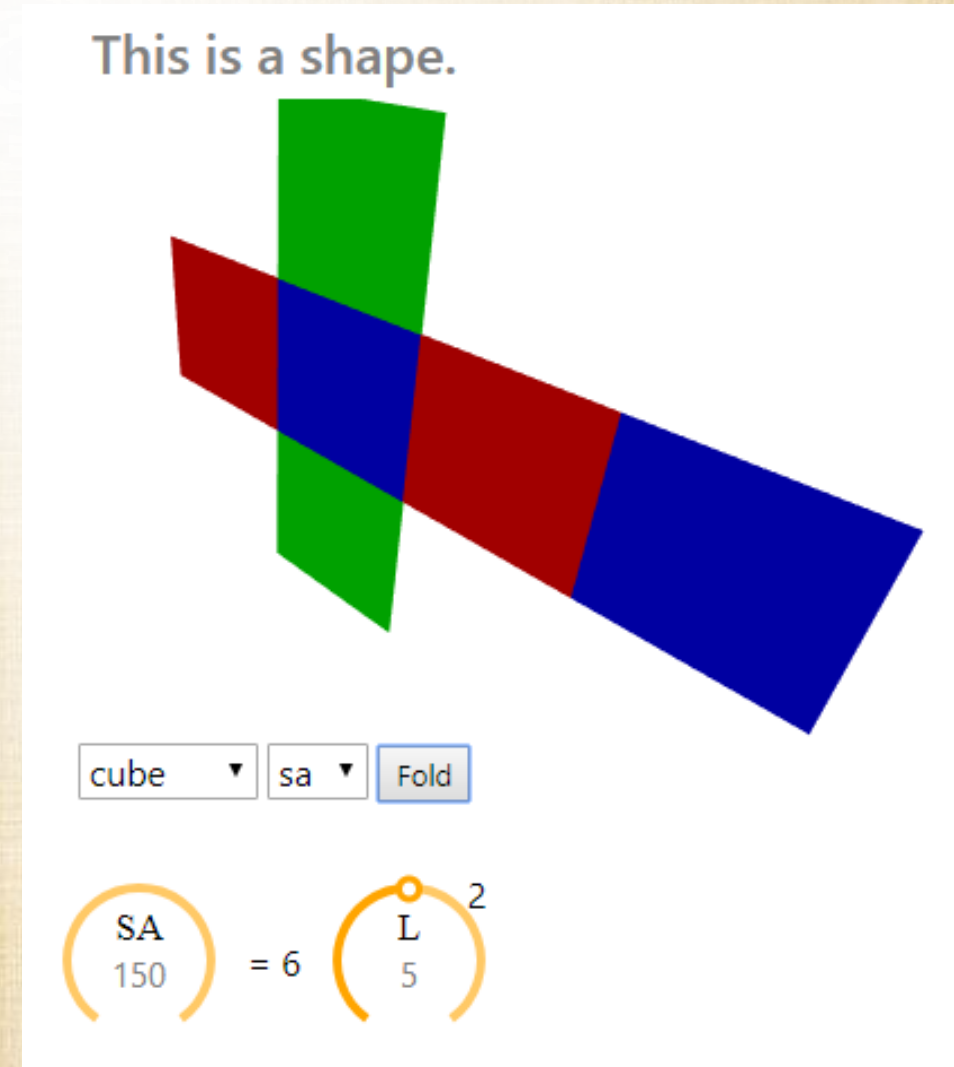


GEOMETRY VIA GESTURES

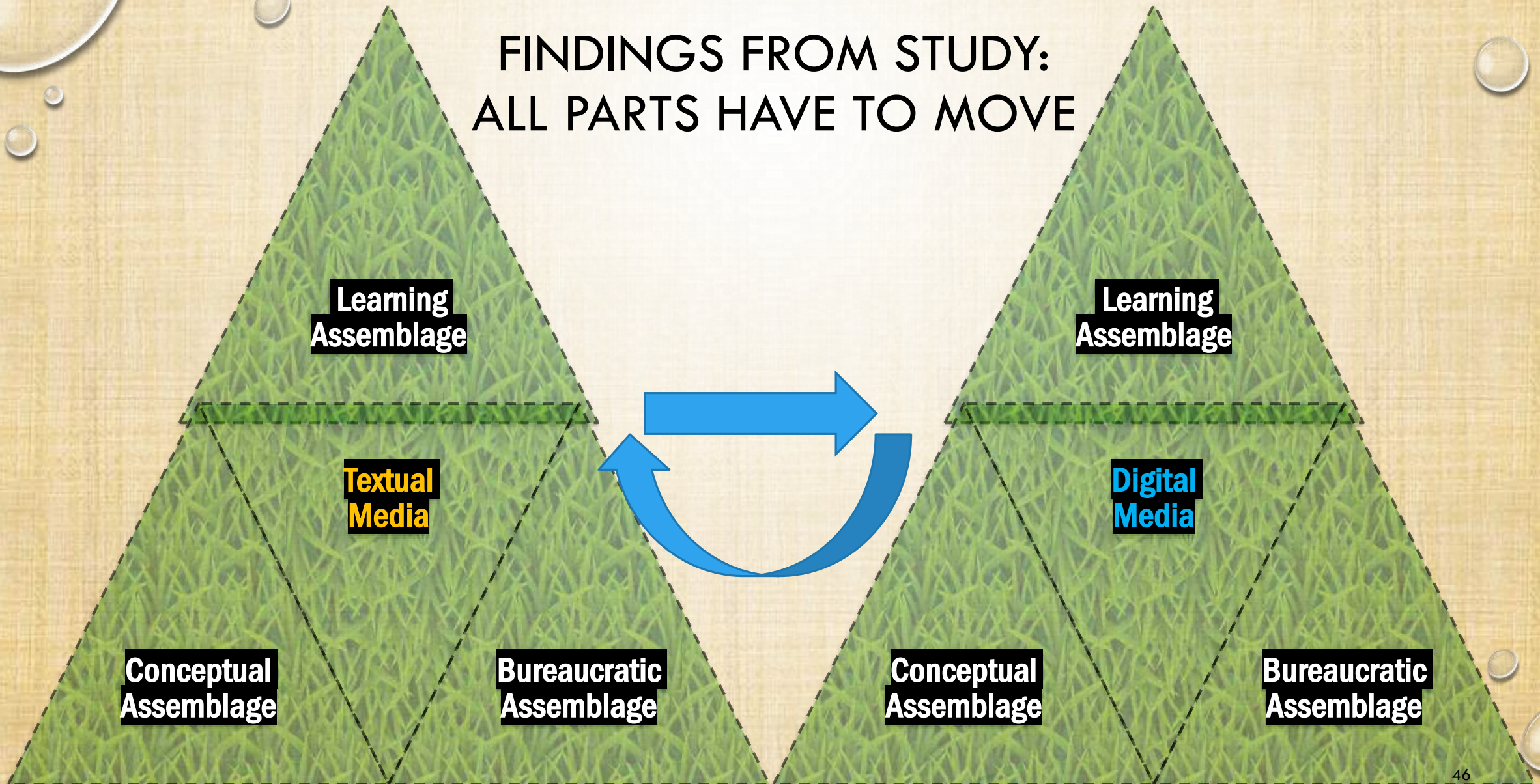
[BIT.LY/GVG-2](https://bit.ly/GVG-2)

IN COLLABORATION WITH THE LEARNING
SCIENCES RESEARCH (LSR) GROUP AT HBCSE

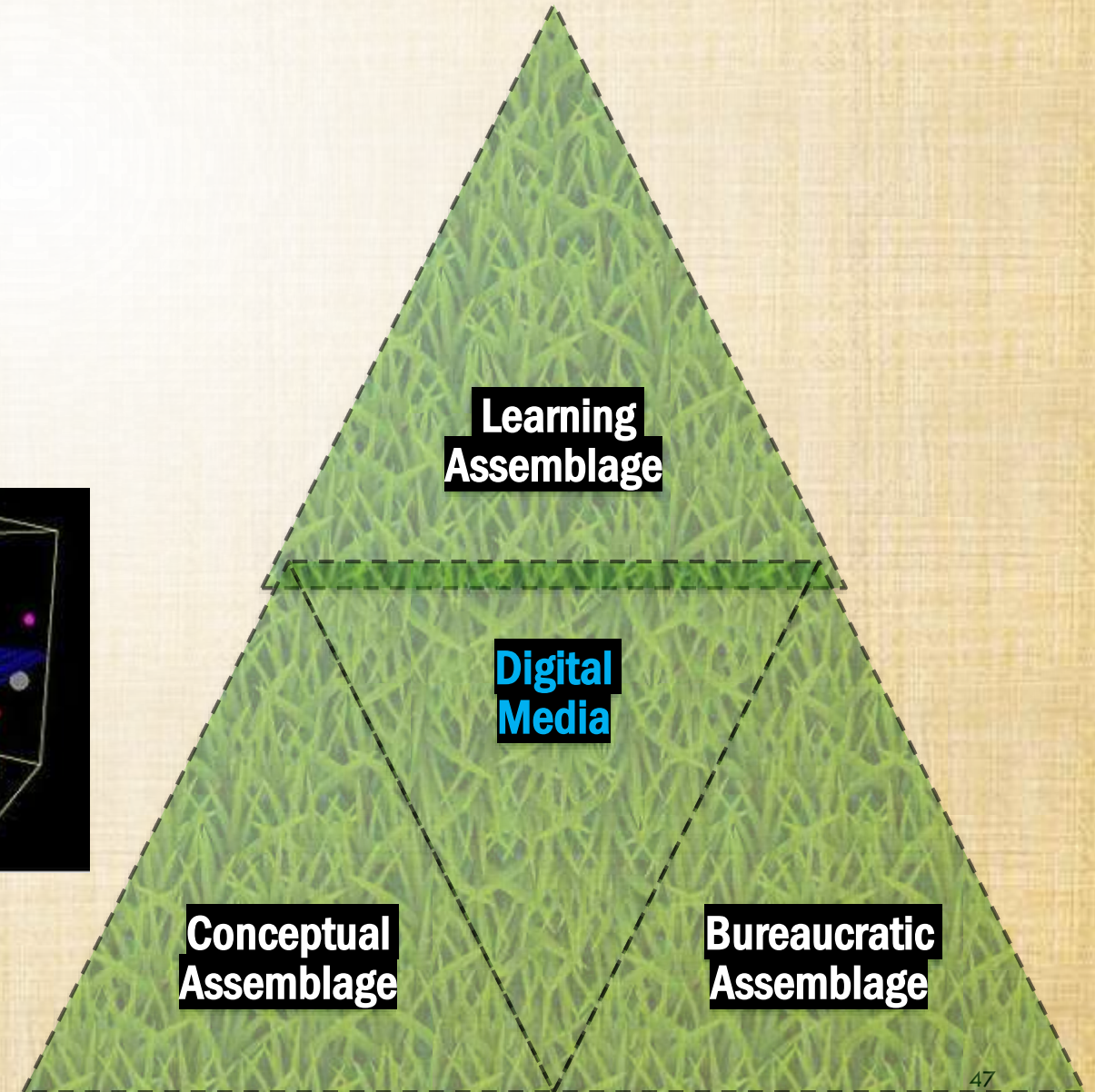
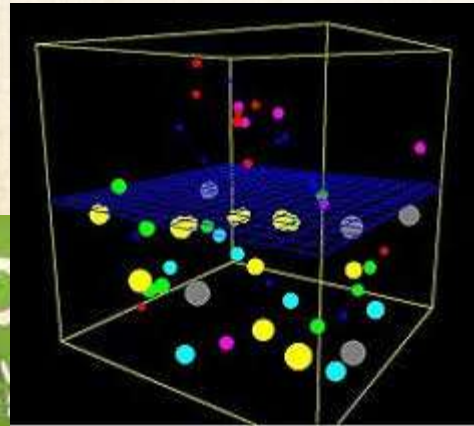
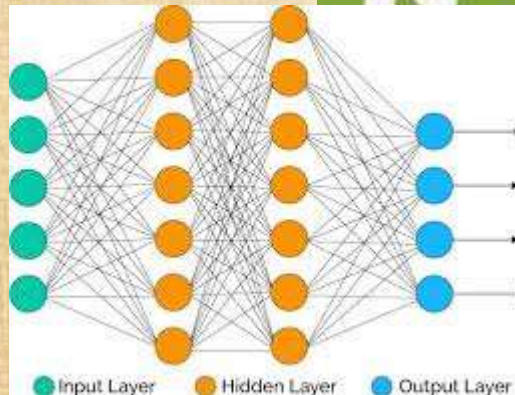
MANIPULABLE SHAPES AND EQUATIONS -
TOGETHER



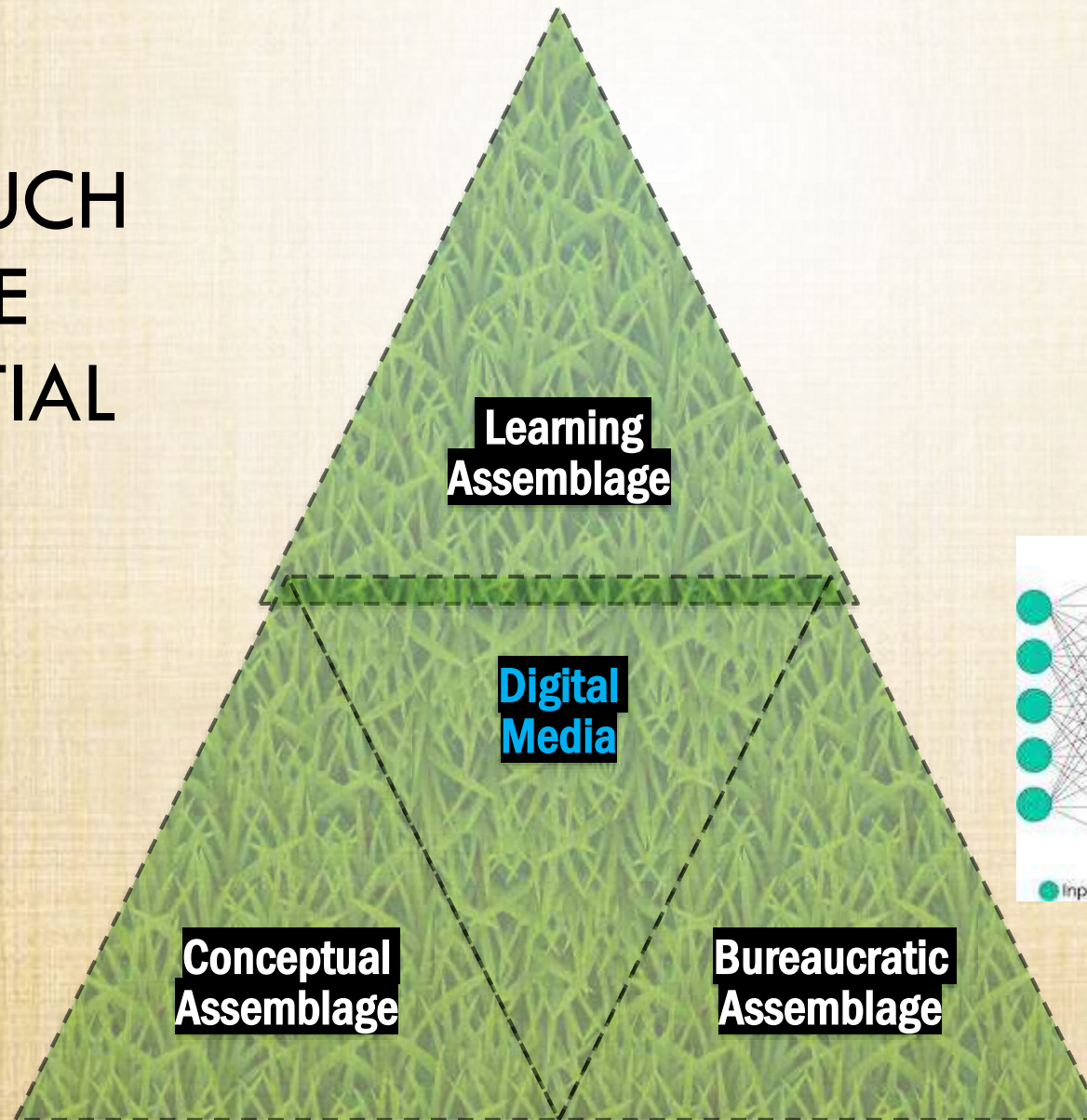
FINDINGS FROM STUDY: ALL PARTS HAVE TO MOVE



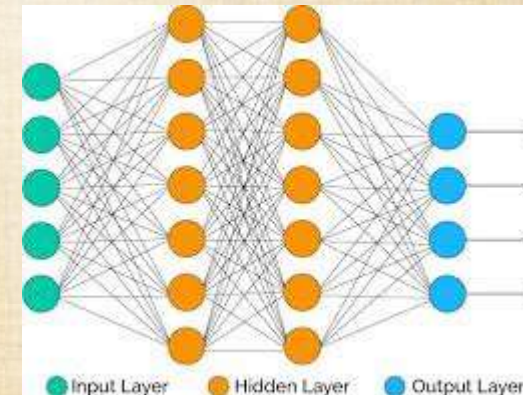
ALREADY
MOVING:
RADICALLY



AND MUCH
MORE
POTENTIAL

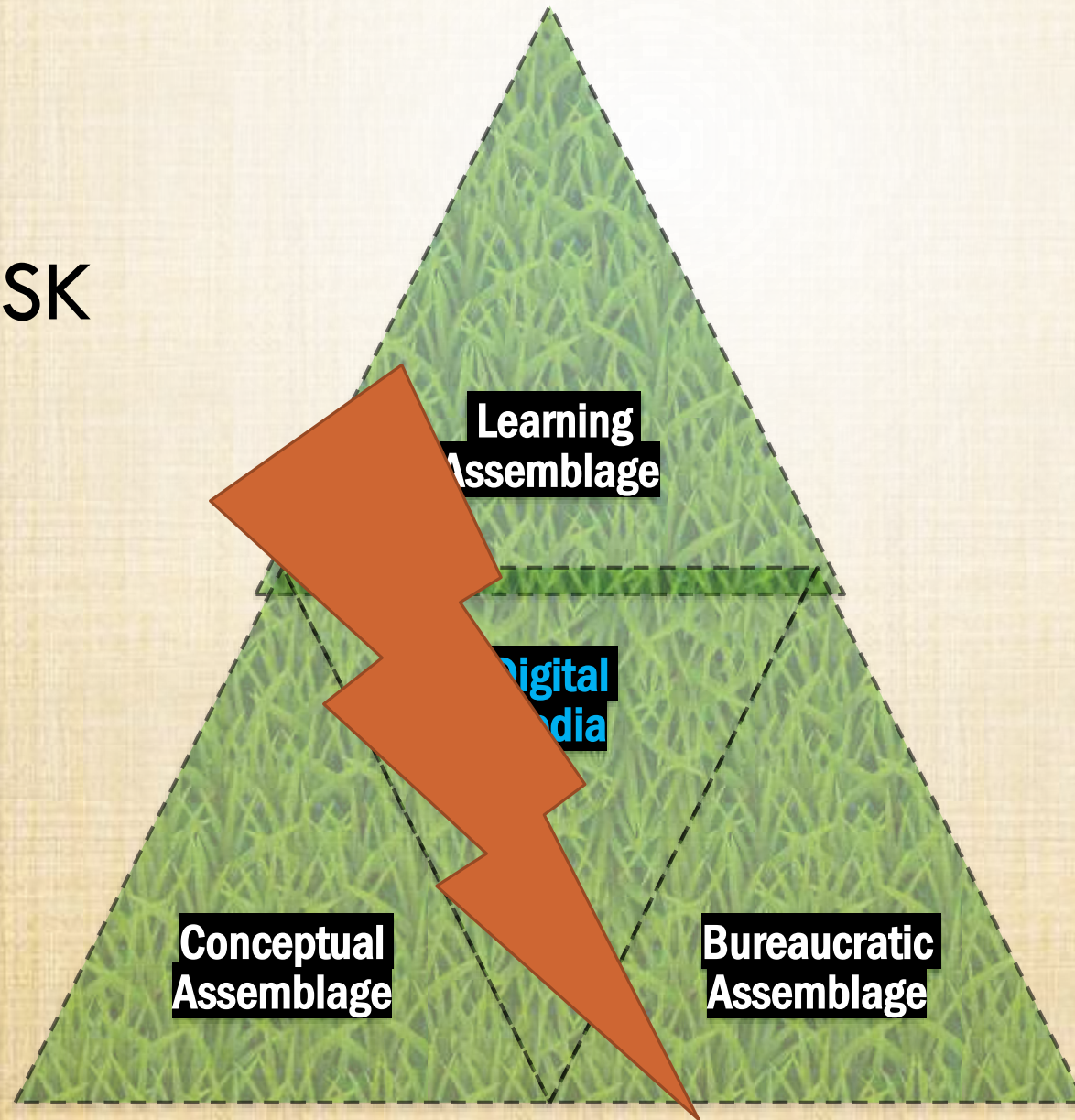


EXCELLENT CLASSIFIERS
(AKA GRADERS)



BUT NOW ALSO
GENERATORS!

AND RISK



RE-THINK
RE-DESIGN
RE-ASSEMBLE



LOCALLY

Images: www.pinterest.com



THANK YOU

QUESTIONS AND COMMENTS

PRATEEK.SHAH@FLAME.EDU.IN

ILLUSTRATIONS: ANVIKA KAPOOR

Tune in for our next webinar

WEBINAR – 12

ISOLATION AND SOCIAL DISTANCING IN TIMES OF CORONAVIRUS: BETWEEN ATTACHMENT AND ALIENATION

Wednesday, June 24, 2020 | 5pm to 6pm IST

SPEAKERS



Prof. Sabah Siddiqui
Faculty - Psychology, FLAME University



Prof. Ninad Patwardhan
Faculty - Psychology, FLAME University