

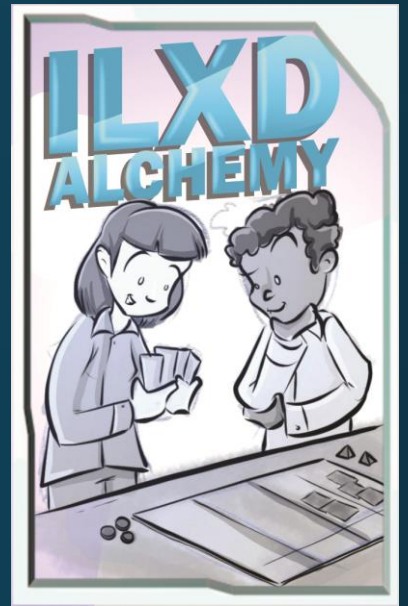


Immersive Learning Experience Design (ILXD)

ILXD Alchemy Design Training Game

ILXD Alchemy Game

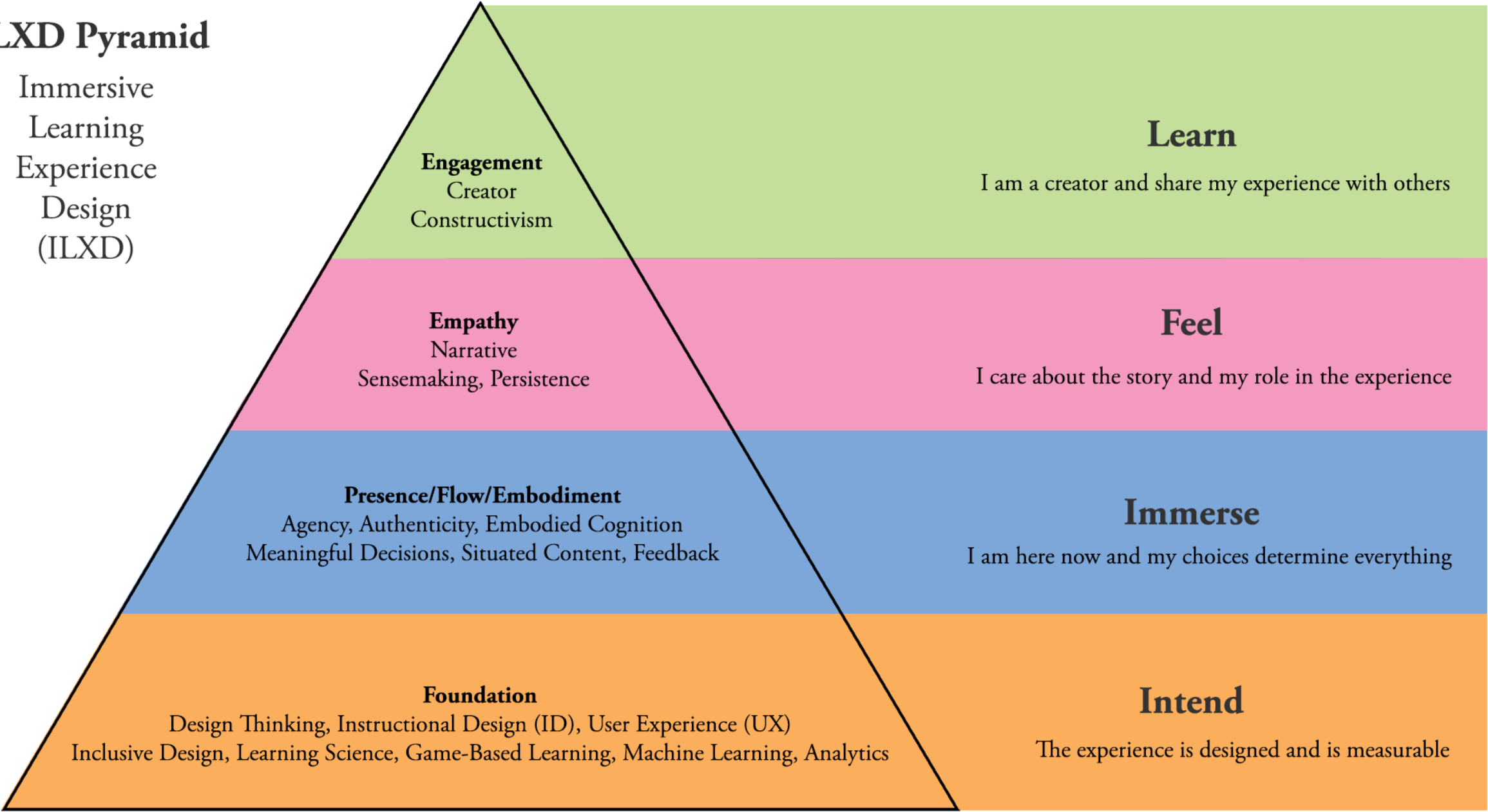
Tutorial Level



- The ILXD Alchemy Card Game is a professional development training game and a stakeholder team design tool using the Immersive Learning Experience Design (ILXD) model.
- Purpose: experience the Tutorial Level as an introduction to the ILXD Model and as preparation for design play

ILXD Pyramid

Immersive
Learning
Experience
Design
(ILXD)



Immersive Learning Experience Design (ILXD)

Elements

LX Learning Experience									ES Sensemaking	EP Persistence	CV Constructivism	CO Collaboration
GB Game-Based Learning	LS Learning Science	FL Flow	EM Embodiment	SL Sense of Self Location	SA Sense of Agency	SB Sense of Body	EB Embodied Cognition	EN Narrative	EG Engagement	CR Creator	OS Office Suite	
DT Design Thinking	IN Inclusive Design	AI Artificial Intelligence	PR Presence	PD Distraction	PF Fidelity	PS Sensory Engagement	PC Control	EM Empathy	IW IBM Watson	AS Autodesk Suite	AC Adobe Creative	
ML Machine Learning	DL Deep Learning	AN Analytics	OT Oculus Touch	OG OculusGO	VE HTC Vive	DV Daydream View	HL Hololens	UN Unity	GA Google AI	HE Higher Education	PE Professional Education	



Intention



Immersion



Feeling



Learning



Type



Tool



Platform

Learning Objectives (LO)

- Standard learning objectives consider the following:
 - **A**udience “learner”
 - **B**ehavior (verb)
 - **C**ondition (situation)
 - **D**egree of mastery (measure)
- Problems:
 - Not learner-focused, instructionally focused
 - One size fits all
 - Don't consider the learner experience

Learning Experience Objectives (LXO)

LXOs consider the following:

Learner

Behavior

Condition

Level of Achievement

ILXD State

Example:

Tier A (novice):

I, a learner new to microbiology, will immerse myself in observing slides in a virtual reality environment to identify the structure of three microorganisms.

Tier B (intermediate):

I, a learner familiar with microbiology, will feel motivated to compare and contrast the structure and function of three microorganisms by observing slides in a virtual reality microscope.

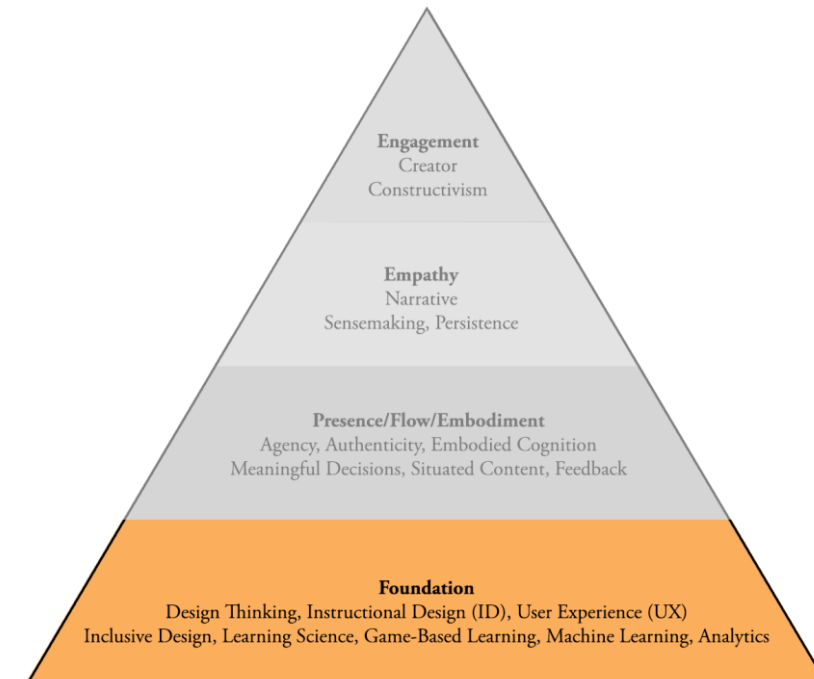
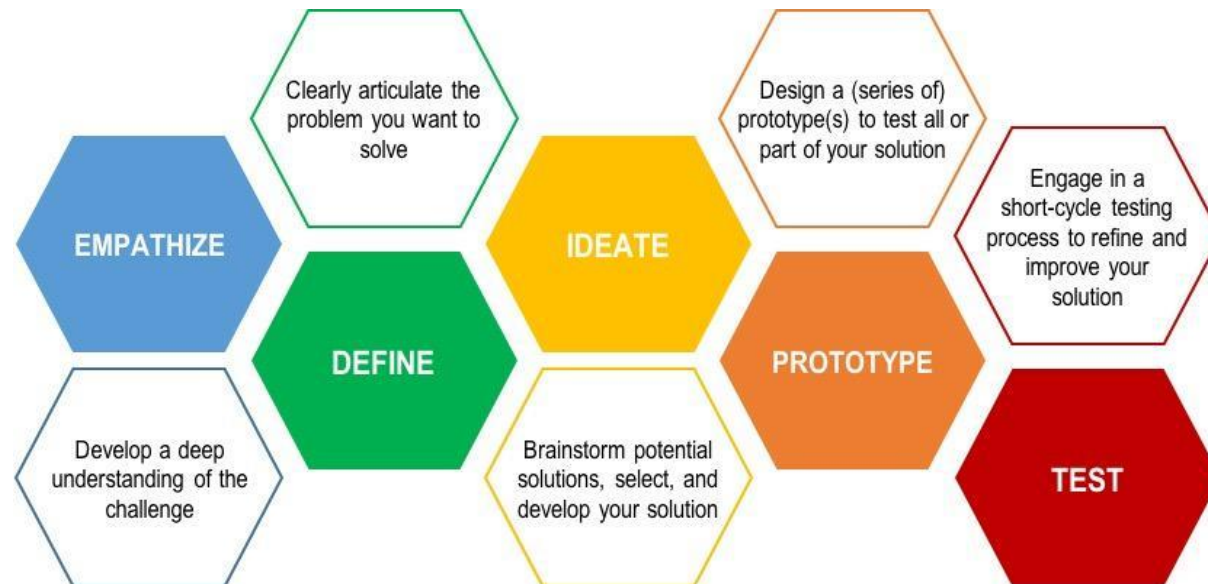
Tier C (expert):

I, an expert in microbiology, will construct an analysis of three microorganisms to provide content for future learners by observing slides in a virtual reality microscope.

“Empathize” questions that guide our design (about their knowledge, skills, confidence, motivation, resources and tools, and learning preferences):

Intend

1. What drives our learners? What are their motivations and how can we access that? Why do they care?
2. How can we connect to our learners on a personal level?
3. How can we connect to our learner’s previous experience?
4. What do they want to see in how they experience the learning?
5. What prevents our learners from engaging with the information? What would they change?
6. How can we connect our learners to the big ideas so they are able to construct experiences that bring the learning outcomes within their zone of proximal development?



How to Play

Read the Objective / Learner Card

Round 1 – Select Intend Elements

Round 2 – Select Immerse Elements

Round 3 – Select Feel Elements

Round 4 – Select Learn Elements

Observe ILXD Index Result

Compare your design and ILXD Index with our Adtalem ILX Team product (myVRscope™)



Immersive Experience Objective Challenge

Thousands of university, college, and high school learners are confronted with a common obstacle in lab classes every semester at campuses across the globe ... there simply isn't enough equipment to go around. Lab assignments are designed for one learner to complete in a class period, but a lack of lab equipment usually requires lab activities to be completed in 'small teams'. No matter how creative faculty are in crafting 'team' lab activities, the end result is unchanged - some students watch while other students get first-hand experience. Exacerbating this issue is the fact that this typically occurs in large, lower division lab courses where developing lab skills are so crucial for success throughout the degree program.

Seated and hybrid courses involving microscopy labs struggle to provide enough equipment and time for students to complete individual microscope lab activities, often forcing groups and group work during microscope lab time.

Online courses are unable to provide truly experiential microscopy labs and are unable to meet course objectives.

Learner - Higher Ed | Corporate Training
Type - GBL | Sim | 360 video
Mode - VR or VR/AI





myVRscope™

Learner Persona

myVRscope™ was designed with and for learners who attend Chamberlain College of Nursing, since they are a major ATGE client. The commercial version of myVRscope™ will appeal to a wider variety of learners, but they will still be predominately enrolled in a science-based program and will have many of these same characteristics.

Chamberlain College of Nursing is a private, for-profit school that has a distinct dominant learner type. The common traits of these learners include the following:

They are in school to earn their Bachelor's Degree in Nursing.

100% of students receive aid, with 85% of students using federal student loans to pay the \$20,000 per year tuition.

Fewer than 3% of students are registered as disabled.

Learning Environment: Chamberlain campuses vary in size, with between 6 and 115 full time faculty and a 9:1 average student to faculty ratio.

Learners are 82% female and 18% male.

Race identification includes 53% white, 20% Asian, 13% Hispanic/Latino, 1% black, with the remaining percent unknown.

64% of learners are over the age of 25.

Older students have trouble with technology when it is introduced.

Only half of learners are enrolled in some form of distance education.

Most learners have full or part time jobs, and they struggle with work-school-life balance. They feel there is not enough time to do all that they need to. They struggle with prioritizing tasks and have trouble keeping up with class. They often come to class unprepared.

They require learning that is effective and efficient.

Learners are not science oriented and their thinking is not scientific, even after taking several science courses.

Keeping track of new terminologies is difficult for these learners, with too many terms and too little time to master the information.

They struggle with recall and application and synthesis of concepts from prior courses.

Learners struggle with basic concepts and with mathematical calculations, and a significant amount of remediation is required.



ILXD Alchemy Game

Game Materials



Element	Resource Coins	Additional Impact Gems
LX	2	1
GB	3	1
LS	1	
DT	1	
IN	1	
AI	3	1
AN	1	
FL	1	
EM	1	
SA	2	1
PF	1	
PS	1	
PC	1	
ES	1	
EN	2	1
CV	2	1
CO	2	1
CR	2	1



DT

Design Thinking

Design thinking is a method for practical, creative design solutions using the circular steps of empathize, define, ideate, prototype, test, and implement. In ILXD, design thinking is emphasized in the intention phase as a structure to create innovative, authentic learning experiences based on learner needs and motivations.

DL

Deep Learning

Deep Learning is typically a practical application of Machine Learning. Driverless cars, medical diagnosis, and shopping recommendations are all examples of Deep Learning.

AN

Analytics

Learning analytics are the measurement, collection, analysis, and reporting of data about learners and their contexts for the purposes of understanding and optimizing learning and the environments in which it occurs.

AI

Artificial Intelligence

AI involves computer software that has been programmed to interact with the world in ways normally requiring human intelligence. AI in education includes deep learning and machine learning that can be used to deliver 1:1 learning experience.

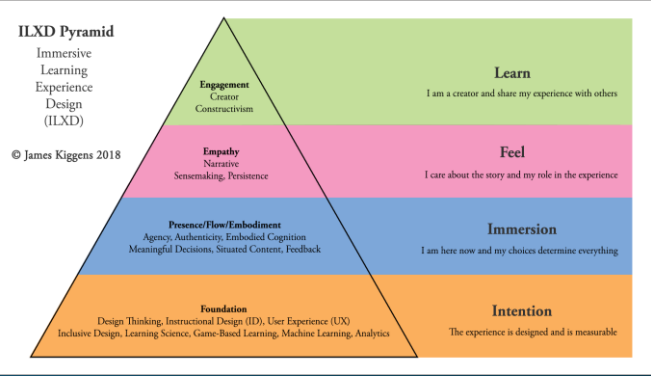
An Engaged Learning Technologies White Paper on Designing Intelligent Immersive Learning for Professional and Higher Education

Immersive Learning Experience Design (ILXD)

Elements

LX	LS	FL	EM	SL	SA	SB	EB	EN	EG	CR	OS
GB	IN	AI	PR	PD	PF	PS	PC	EM	IW	AS	AC
DT	DL	AN	OT	OG	VE	DV	HL	UN	GA	HE	PE

June 2018



Immersive Learning Experience Design (ILXD)

Elements

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Intention Immersion Feeling Learning Type Tool Platform

ILXD Alchemy Game

Objective

- Use the ILXD elements to design an immersive learning experience that meets the objective for the learner persona
- Create the greatest immersive learning impact – using the fewest resources



LX								ES	EP	CV	CO
Learning Experience								Sensemaking	Persistence	Constructivism	Collaboration
GB	LS	FL	EM	SL	SA	SB	EB	EN	EG	CR	OS
Game-Based Learning	Learning Science	Flow	Embodiment	Sense of Self Location	Sense of Agency	Sense of Body	Embodied Cognition	Narrative	Engagement	Creator	Office Suite
DT	IN	AI	PR	PD	PF	PS	PC	EM	IW	AS	AC
Design Thinking	Inclusive Design	Artificial Intelligence	Presence	Distraction	Fidelity	Sensory Engagement	Control	Empathy	IBM Watson	Autodesk Suite	Adobe Creative
ML	DL	AN	OT	OG	VE	DV	HL	UN	GA	HE	PE
Machine Learning	Deep Learning	Analytics	Oculus Touch	OculusGO	HTC Vive	Daydream View	Hololens	Unity	Google AI	Higher Education	Professional Education

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IN	1	
AI	3	1
AN	1	
FL	1	
EM	1	
SA	2	1
PF	1	
PS	1	
PC	1	
ES	1	
EN	2	1
CV	2	1
CO	2	1
CR	2	1

ILXD Alchemy Game

Round 1



- Choose and play Intend Layer element cards in the Round 1 column on the game mat
- Place Resource Coins for each element played in the Round 1 Score section (as listed)
- Place Impact Gems on each element (as listed)
- Place a Emphasis Star on one of the element cards (to emphasize impact or challenge to implement)

ILXD Alchemy Game

Round 1 - Scoring

Add an extra Impact Gem on LX, GBL, or AI

(choose one to impact = if played)



ILXD Alchemy Game

Round 2



- Choose and play Immerse Layer element cards in the Round 2 column on the game mat
- Place Resource Coins for each element played in the Round 2 Score section (as listed)
- Place Impact Gems on each element (as listed)
- Place a Emphasis Star on one of the element cards (to emphasize impact or challenge to implement)

ILXD Alchemy Game

Round 2 - Scoring

Add an extra Impact Gem on FL, EM, or SA if element has Emphasis Star

If Emphasis Star on LX in Round 1 -
add additional Impact Gem on SA (if played)



ILXD Alchemy Game

Round 3

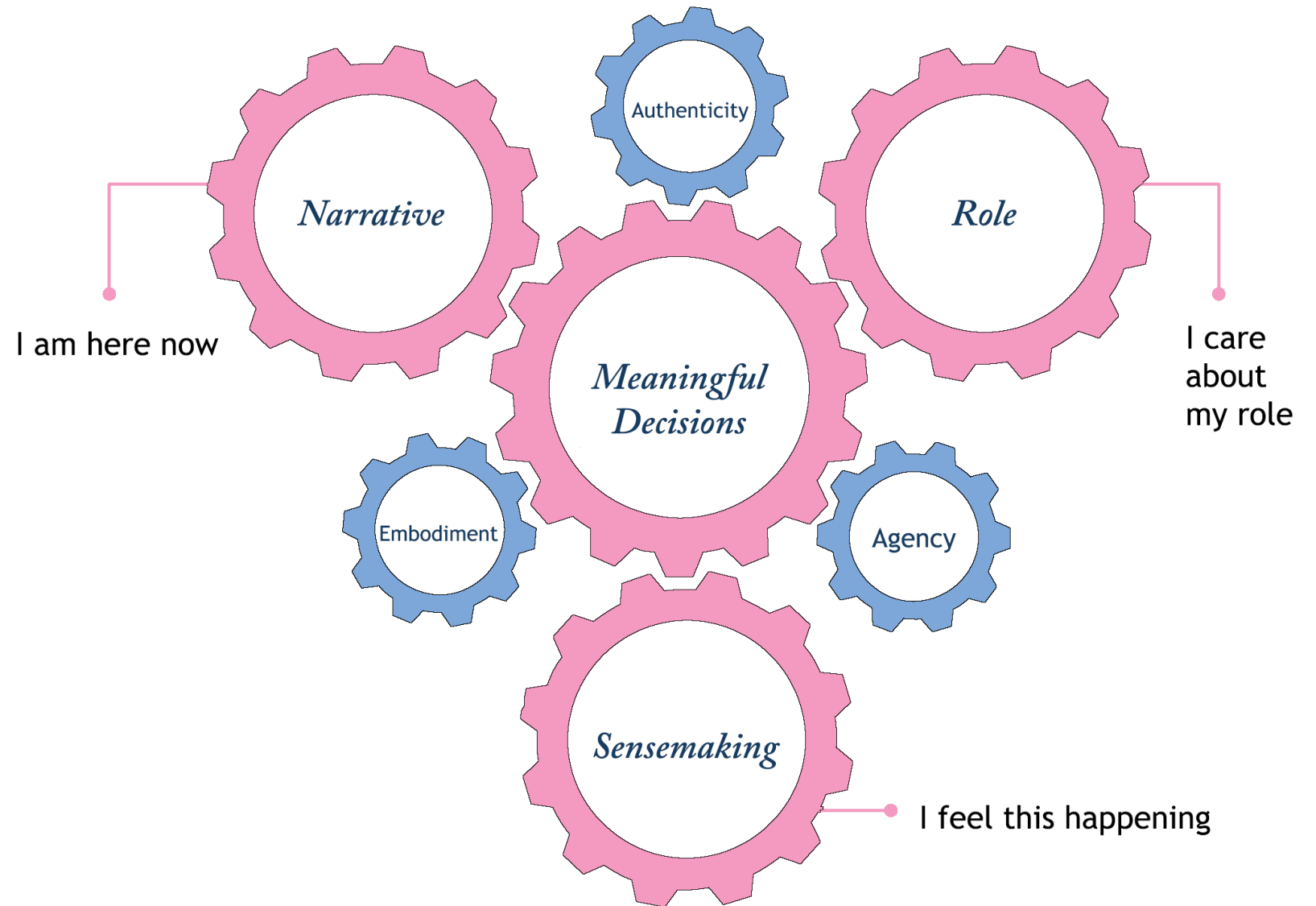


- Choose and play Feel Layer element cards in the Round 3 column on the game mat
- Place Resource Coins for each element played in the Round 3 Score section (as listed)
- Place Impact Gems on each element (as listed)
- Place a Emphasis Star on one of the element cards (to emphasize impact or challenge to implement)

Feel

Narrative
Sensemaking
Persistence

ILXD Empathy Engine



LX Learning Experience									ES Sensemaking	EP Persistence	CV Constructivism	CO Collaboration
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ILXD Alchemy Game

Round 3 - Scoring

If Emphasis Star on SA in Round 2 -
add additional Impact Gem to ES (if
played)



ILXD Alchemy Game

Round 4



- Choose and play Learn Layer element cards in the Round 4 column on the game mat
- Place Resource Coins for each element played in the Round 4 Score section (as listed)
- Place Impact Gems on each element (as listed)
- Place a Emphasis Star on one of the element cards (to emphasize impact or challenge to implement)

ILXD Alchemy Game

Round 4 - Scoring

Add an additional Impact Gem on CR or CV if element has Emphasis Star

If Emphasis Star on AI in Round 1 -
add additional Impact Gem on CV (if played)

If Emphasis Star on SA in Round 2 -
add additional Impact Gem on CV or CR (if played)



ILXD Alchemy Game

Final Score

Calculate ILXD Index in Solution

Total all Impact Gems

Total all Resource Coins

Coins / Gems = ILXD Index

LX Learning Experience								ES Sensemaking	EP Persistence	CV Constructivism	CO Collaboration
GB Game-Based Learning	LS Learning Science	FL Flow	EM Embodiment	SL Sense of Self Location	SA Sense of Agency	SB Sense of Body	EB Embodied Cognition	EN Narrative	EG Engagement	CR Creator	OS Office Suite
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ML Machine Learning	DL Deep Learning	AN Analytics	OT Oculus Touch	OG OculusGO	VE HTC Vive	DV Daydream View	HL Hololens	UN Unity	GA Google AI	HE Higher Education	PE Professional Education



Our Solution



myVRscope™

Learner = Higher Ed

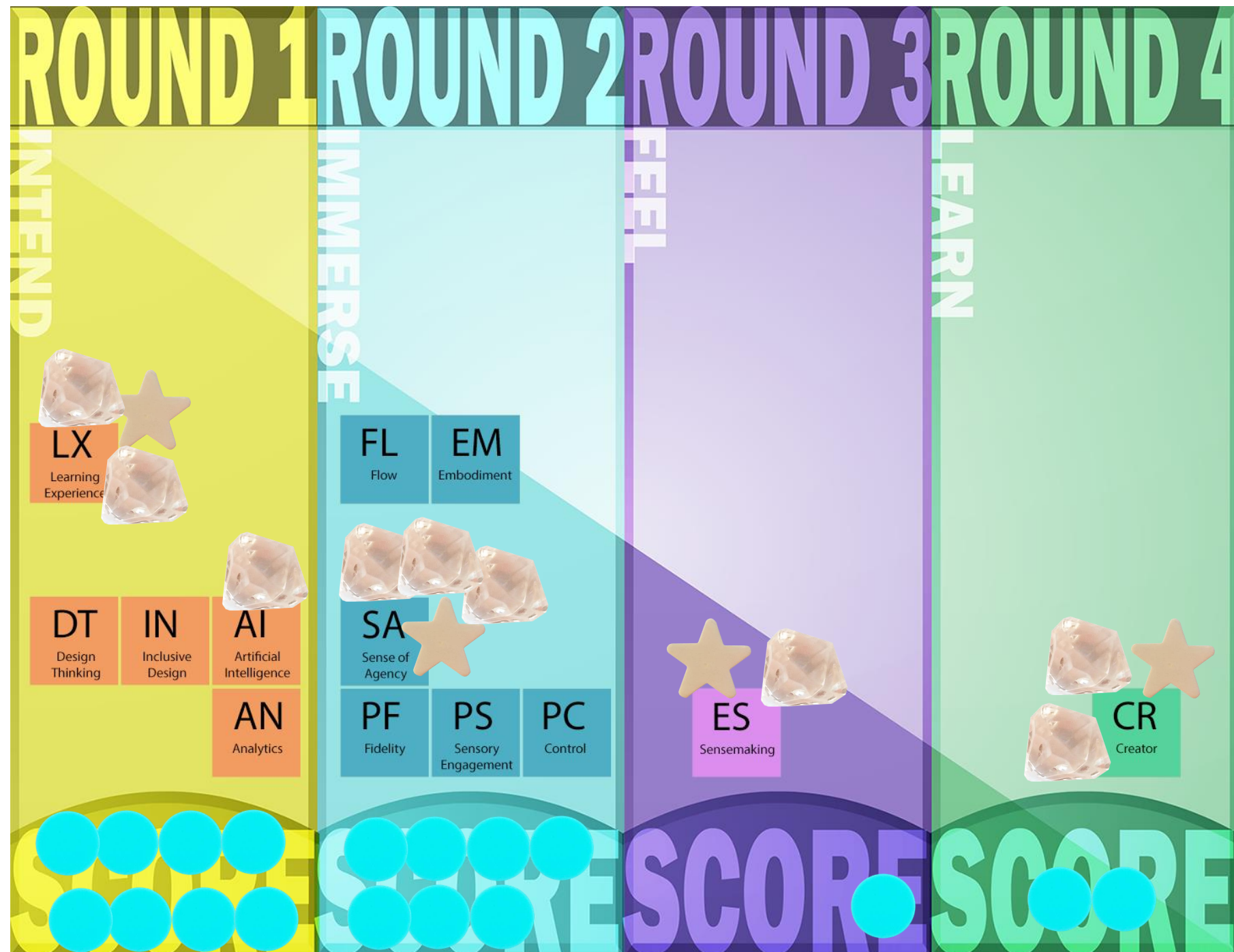
Type = Sim

Mode = VR/AI

 = 9

 = 18

$18 / 9 = 2$





myVRscope™

ADT^LEM
GLOBAL EDUCATION



INNOVATION
CENTER OF EXCELLENCE



Museum

Tutorial

Lab

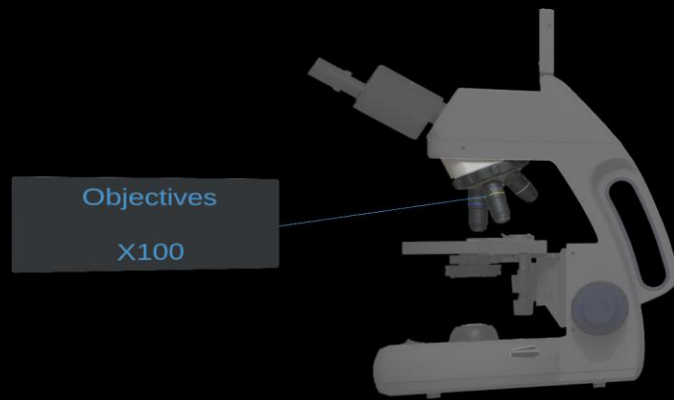
Lobby



Lab View



Specimen View



AI Tutor – Dr Beaker



USER

show me the nose piece

MONDAY, NOVEMBER 12, 2018 @ 1:19:14 PM

AGENT 

Here, let me show you where the nosepiece is.

MONDAY, NOVEMBER 12, 2018 @ 1:19:26 PM

USER

how do I load the slide

MONDAY, NOVEMBER 12, 2018 @ 1:19:26 PM

AGENT 

To load a slide, use your pointer to click on a slide in the slide holder. Hold down the trigger and move the slide to the microscope stage, then release the trigger. The slide will load. Try it!

Enter text...

SEND



More ...

ILXD Online Course – Opens Monday, July 29 (FREE)

- email us to join the 5 week course

Visit our booth and play myVRscope™

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