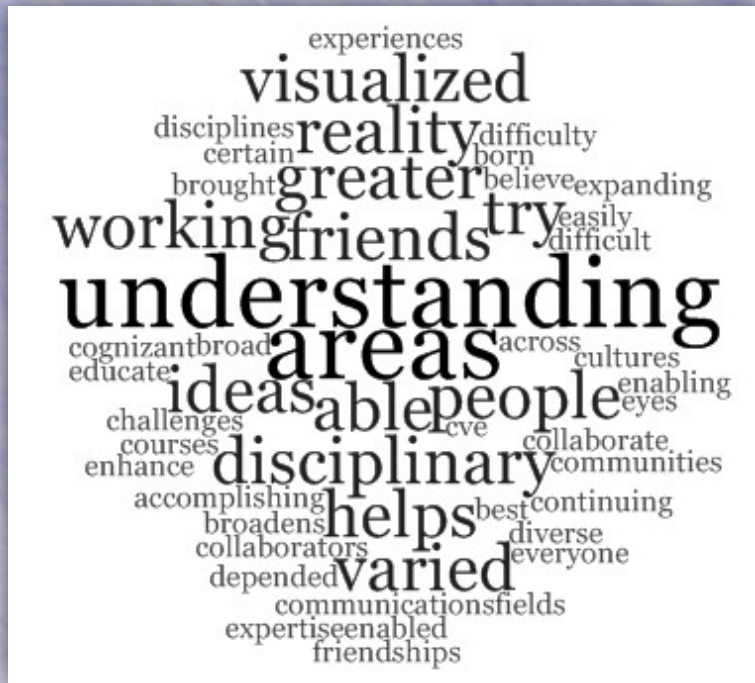


Towards Transdisciplinarity: Leading Collaboration in Virtual Environments as Embodied Avatars

*Dr. Barbara Truman,
Colorado Technical University*



*Dr. Cynthia Calongne,
Colorado Technical University
Dr. Andrew Stricker,
The Air University, USAF*



aka Delightful Doowangle

Toward Transdisciplinarity

Future Work Skills 2020

While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.

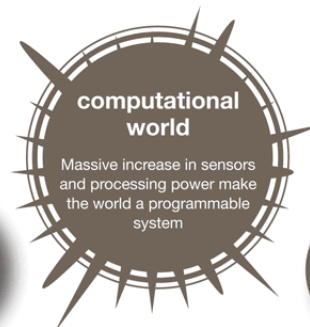
KEY



Drivers—disruptive shifts that will reshape the workforce landscape



Key skill needed in the future workforce



Dialogue for Collaborative Prototyping



Doctoral classes with distributed learners and faculty building together

Dialogue for and within Experiential Professional Development

Games MOOC

[Home](#)[Getting Started](#)[News](#)[Week 1](#)[Week 2](#)[Week 3](#)[Forums](#)[Events](#)[Journals](#)[Roster ▾](#)[MOOC I ▾](#)[MOOC II ▾](#)[Awards](#)[Media ▾](#)

News

Just in - Google ...
by kae 13 hours ago

WED Tweetchat - B...
by kae about one day ago

Narrative and Gam...
by kae 3 days ago

Reacting to the P...
by kae 6 days ago

edWeb Webinar on ...
by kae 6 days ago

more

Awards

 **Artisan**
Winner: Lleshrad

 **Bard**
Winner: EducatorAI

 **Cataclysmic**

Welcome to the Games Based Learning MOOC

Games MOOC started on March 18th but it's not too late to join in!



Jade Forest I by Center4EduPunx, on Flickr

Our topic for Games MOOC III is Build the Game using Apps, AR and ARGs. The focus of this MOOC will be learning about the resources available to create a game or gaming project for

Image Slideshow



more

Twitter

 **Games MOOC proximalzone**

Please re-intro yourself! #gamemooc
4 hours ago

Okay - we're ready to wrap - up! We'll talk more ARGs, puzzles & mysteries in week 4 #gamemooc
4 hours ago

@educatoral We'll do a

<http://gamesmooc.shivtr.com>



Topics

Video

Recent Programs

Teacher Resources

The Rundown news 1

ARTS & CULTURE

Art Beat
Books & Authors
Poetry Series

BUSINESS & ECONOMY

Paul Solman's
Making Sense
Patchwork Nation

EDUCATION

Extra: For
Teachers
American Graduate

ENVIRONMENT

GLOBAL HEALTH

HEALTH

LAW

MEDIA

MILITARY

NATION

POLITICS

Immigration
Shields and Brooks
Supreme Court

RELIGION

SCIENCE & TECHNOLOGY

Coping with Climate

REPORT AIR DATE: July 11, 2013

How Virtual Reality Games Can Impact Society, Encourage Prosperity



Jeremy Bailenson
STANFORD UNIVERSITY

SUMMARY

Video games give players super powers and transport them to new worlds. How might this technology be used to transform society and your financial prospects? Economics correspondent Paul Solman visits researchers who use virtual reality to study its effects on human behavior in the real world.

Applying
Human
Performance
Technology

Human-
Personal leadership
Socio-cultural

Performance-
Practicing the
“Art of the
Possible”
Sustainability
Transdisciplinarity

Technology-
Socio-Technical
Integrations

http://www.pbs.org/newshour/bb/business/july-dec13/games_07-11.html

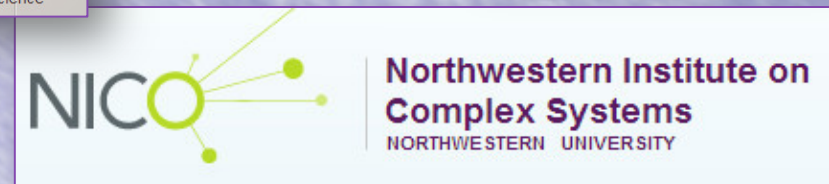
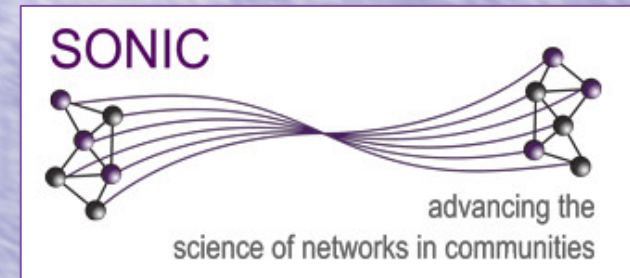
Community Outcomes



- Costs and time saved
- Accelerated learning
- Mentoring
- Learning Organization



Going Pro- Beyond Communities of Practice

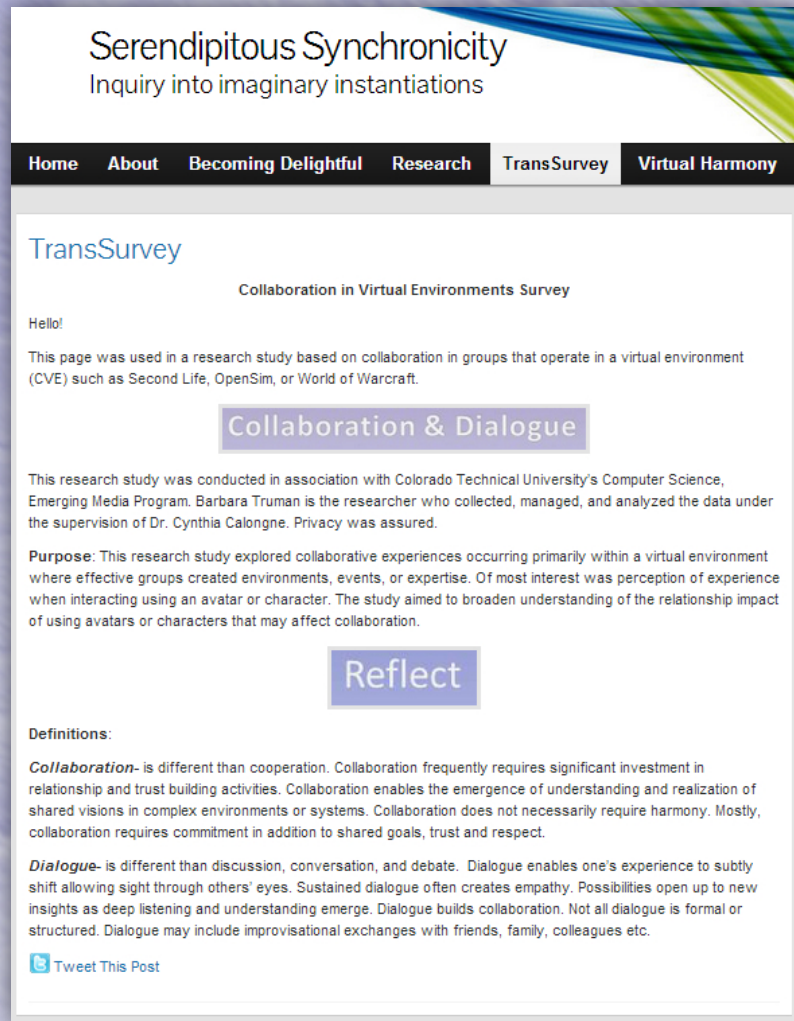


<http://sonic.northwestern.edu>
<http://www.nico.northwestern.edu>
<http://collablab.northwestern.edu>

Collaboration and Team Science: A Field Guide

https://ccrod.cancer.gov/confluence/download/attachments/47284665/TeamScience_FieldGuide.pdf?version=2&modificationDate=1285330231523

Online Survey Administration



3 Part Survey- group, avatar, and individual experience

N=61 participants completed the entire online survey representing a 72% completion rate. The data were analyzed using SPSS22 and NVivo10.

5 scales: Group Engagement, Group Collaboration, Avatar Empowerment, Self-Actualization, and Interdisciplinary Professionalism among 14 theorized factors.

Alpha reliability analysis ($\alpha = .93$).
Kaiser-Meyer-Olkin sampling adequacy .526

Participant Demographics

Respondents came from seven countries, predominantly USA 87%. 44 groups represented across professional associations, non-profits, science-related, government and military.

Females 54%, males 44%

Respondents were predominantly Caucasian 77%

All age groups between 20 and 70+ were represented. Largest segment, 50-60 year olds 30%

All professional domains were represented from industry, education, government, and military. Largest segment, university level 32%

Educational attainment was high. Largest segment reporting doctorate level degree 33%

The largest role reported was leaders 53% and 71% of respondents reported reusing their avatar identity across grids and platforms while 33% use their avatar identity with social media.



Tour of Post-Traumatic
Stress Environment
Second Life 2012 Photo
Credit: Gridjumper

Primary Platforms
67% Second Life
25% OpenSim
8% World of Warcraft

US Army Research Lab, Simulation & Training Technology Center (STTC)



Intel Load Test OpenSim
2013

<http://militarymetaverse.org>





Special Interest Group Virtual Environments



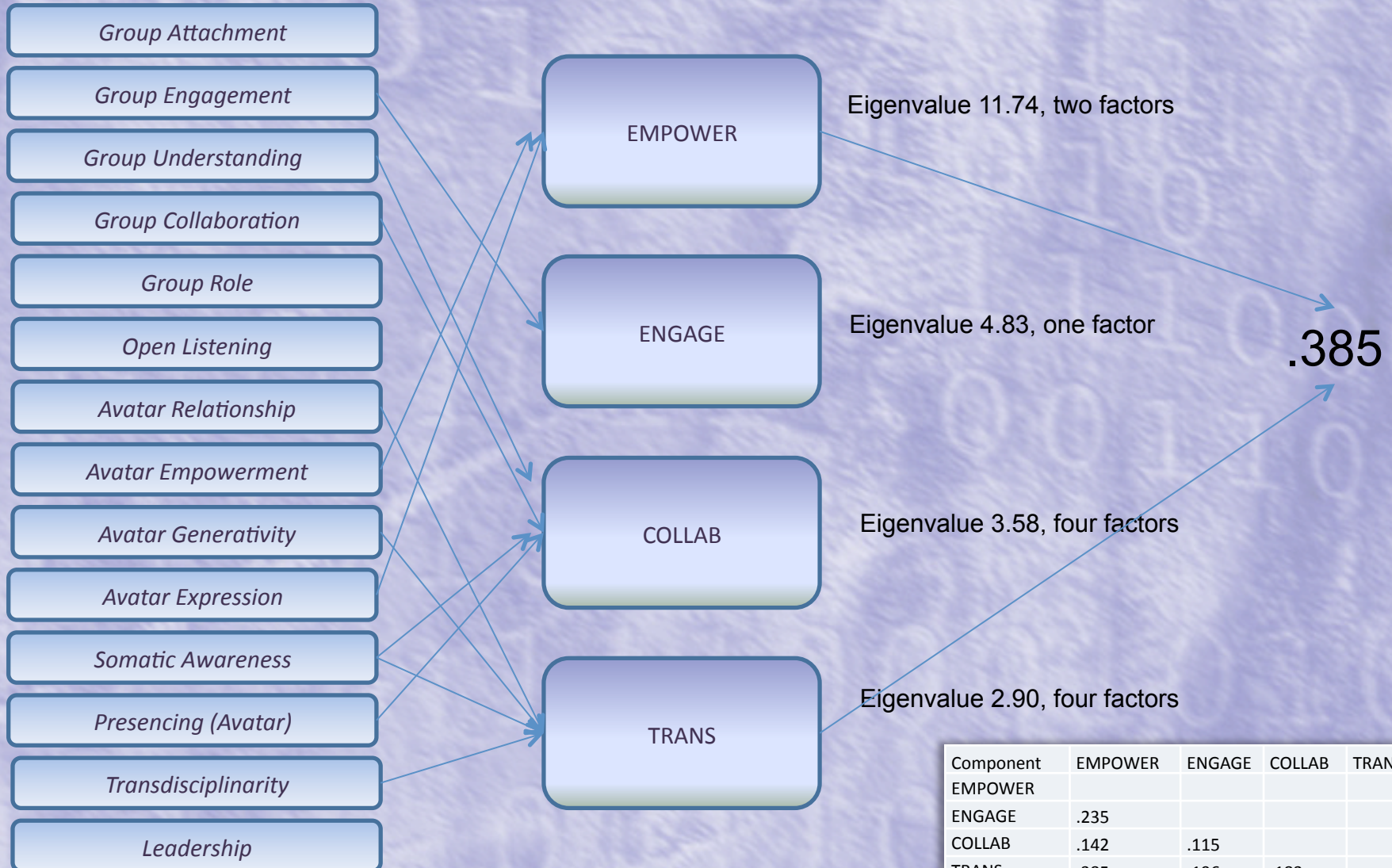
SIGVE attendees at the June
2013 annual International
Society for Technology in
Education conference in San
Antonio, TX

Loire Learning Campus Virtual World Design Thinking MOOC



<http://vwdesignthinking.com>

Quantitative Component Extraction



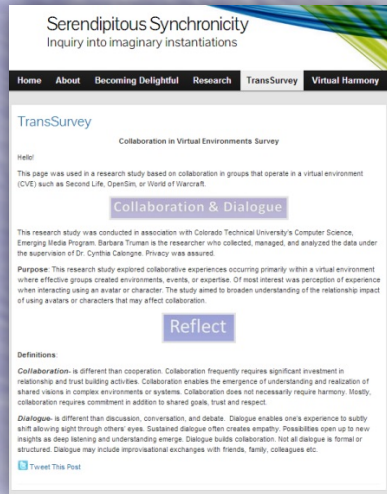
N= 61, 44 quantitative variables

Component	EMPOWER	ENGAGE	COLLAB	TRANS
EMPOWER				
ENGAGE	.235			
COLLAB	.142	.115		
TRANS	.385	.196	.183	

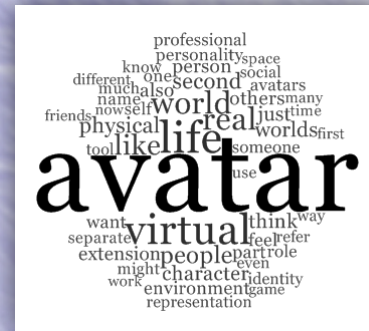
Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Correlation Matrix, Values of <.4 suppressed

Qualitative Theme Extraction



Nodes	Sources	References
Virtual-Physiocation (Individual)	1	46
Virtual InterSubjective Presence (Group)	1	55
Shared Vision	1	3
Shared ownership	1	1
Transdisciplinarity	1	8
Somatic Awareness	1	7
Scholarly contributions	1	2
Requested Innovation	1	1
Platform Affordances	1	22
Personal preparation & research	1	14
Participate in collaborative activities	1	8
Ongoing challenges	1	14
Leadership	1	35
Role	1	2
Lead Activity- Self	1	24
Respect	1	3
Make Presentations	1	1
Adaptability	1	1
Lead Activity- Group	1	6
Commitment	1	2
Hospitality	1	1
Groupwork-Classwork	1	25
Teaching	1	16
Group Understanding	1	38
Communication	1	4
Group Role	1	14
Mentor	1	3



3 open questions
- group
- avatar
- individual

11 ancillary
questions that
were answered
on average by 42
respondents

Open & axial
coding
2,515
references

104 nodes
created in
Nvivo10

Codebook

12 word clouds
created from
coded nodes

35 text queries
created from
source material

Embodiment

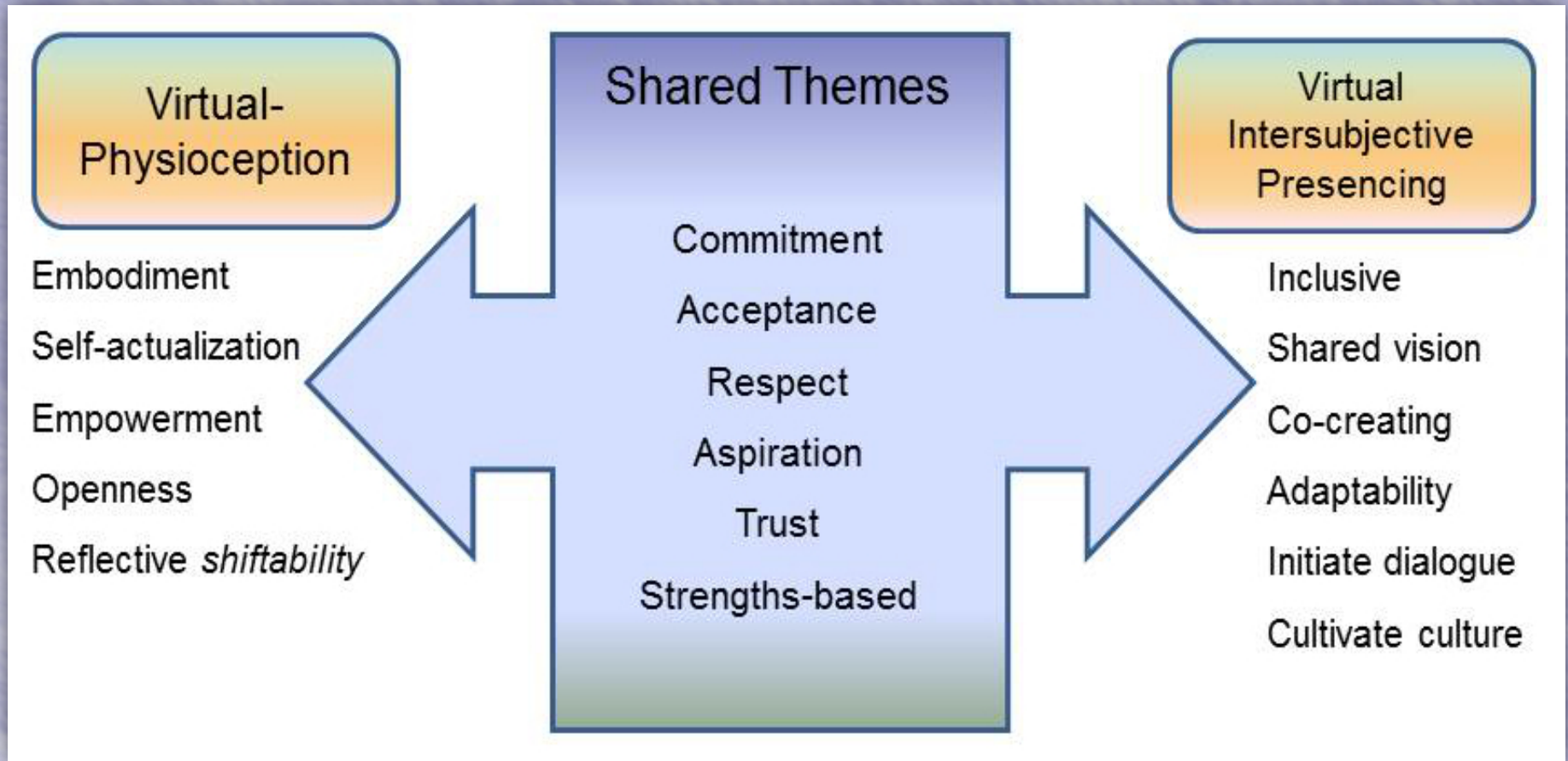
Self-
actualization

Discipline

Aspiration

Techne

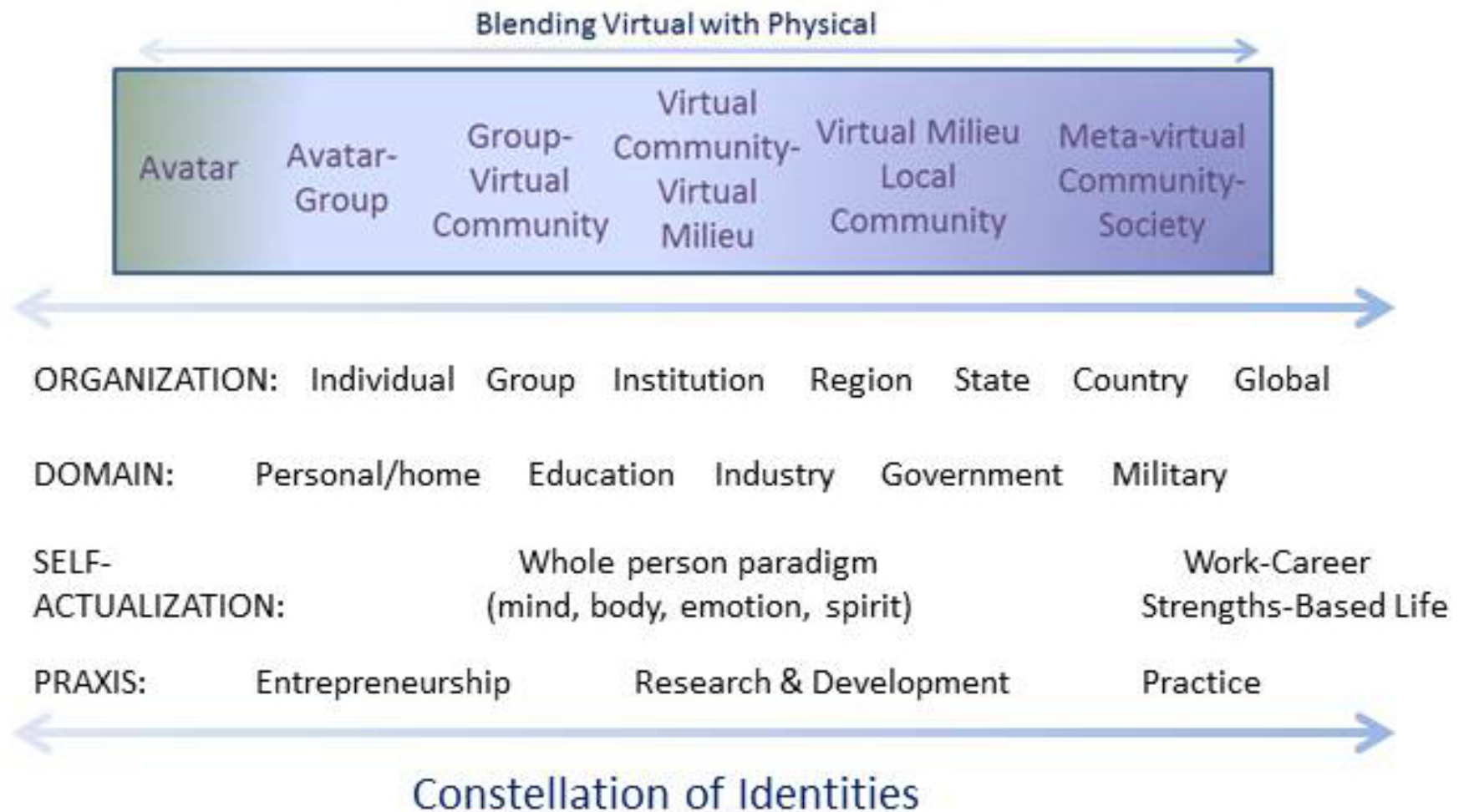
Self-Monitoring & Awareness



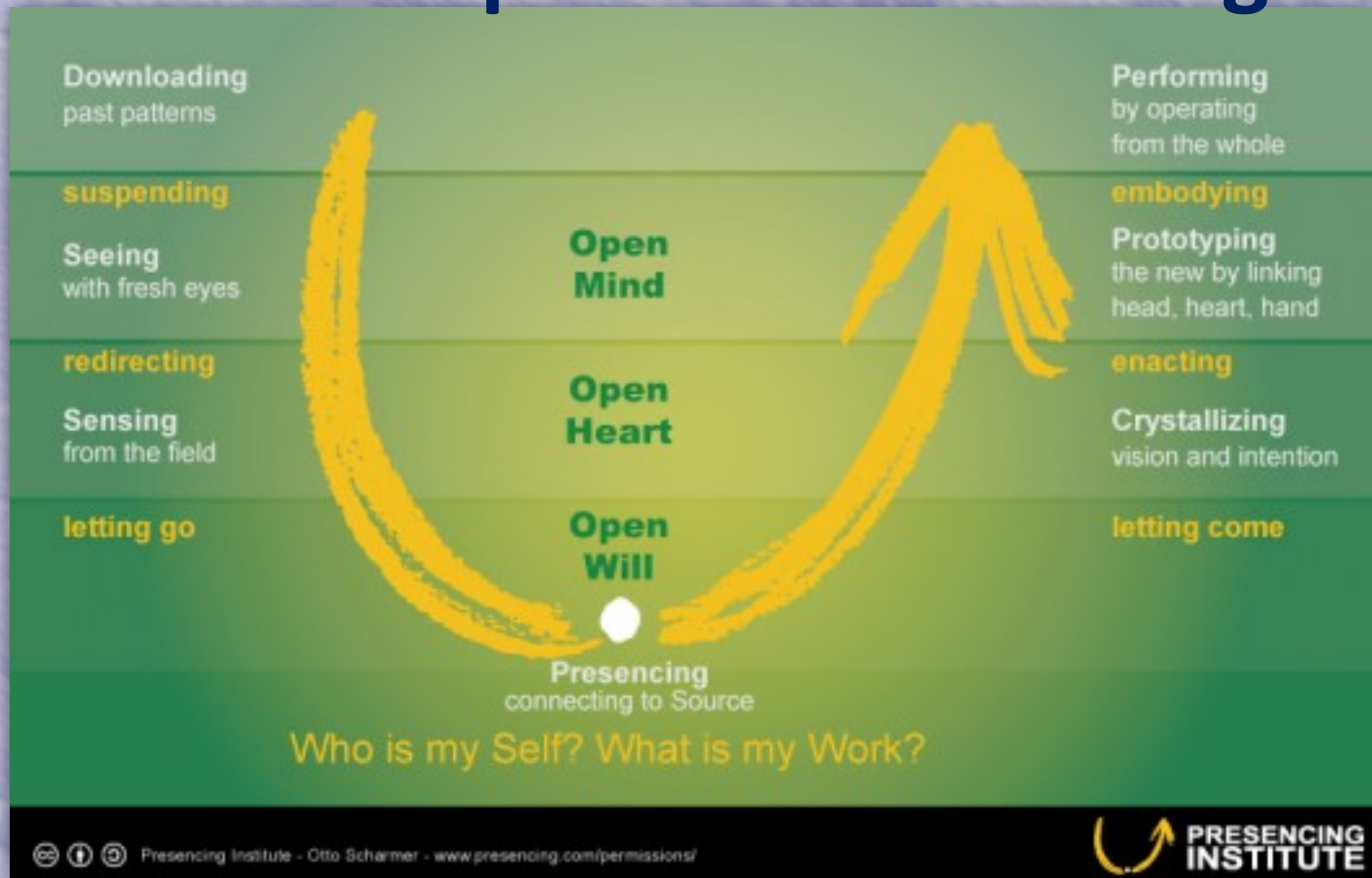
18 Themes including Self-Awareness
across
Two Constructs Created for the Study

Dialogic Spectrum of Involvement

Constituent Elements within Virtual Learning Organization Communities

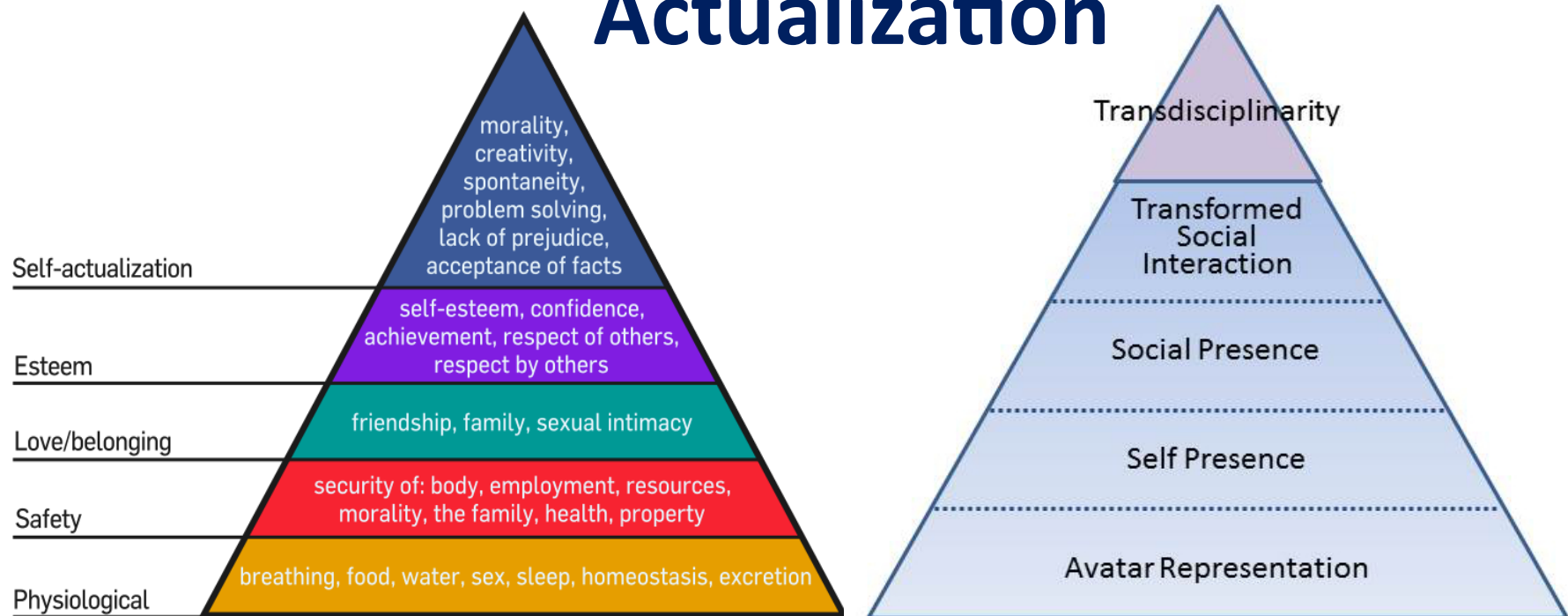


6th Discipline of Presencing



The Presencing Institute (PI) is an awareness-based action research community for profound societal innovation and change. The presencing process is a journey that connects us more deeply both to what wants to emerge in the world and to our emerging, higher self. <http://presencing.com/about>

Virtual Self Actualization



Embodiment Theme
Physical environments juxtaposed to
collaborative virtual environments

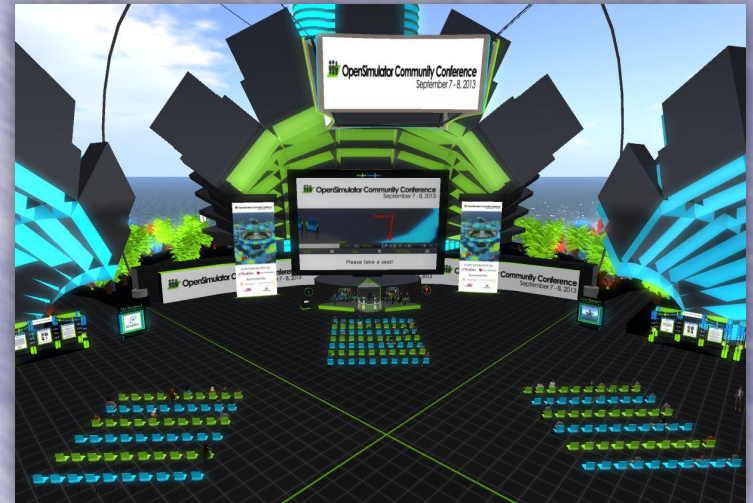
Future Research And Practice

Identity Factors – Supermorphia
(Young & Whitty, 2011) ‘ideal’ self to
better measure virtual-physioception

Physiological therapies using somatic
experience in CVEs – intersection with
biofeedback devices

Connecting CVEs with place-bound
simulators to blend physical and
virtual teams, organizations, and
community action

Social entrepreneurship and
leadership development



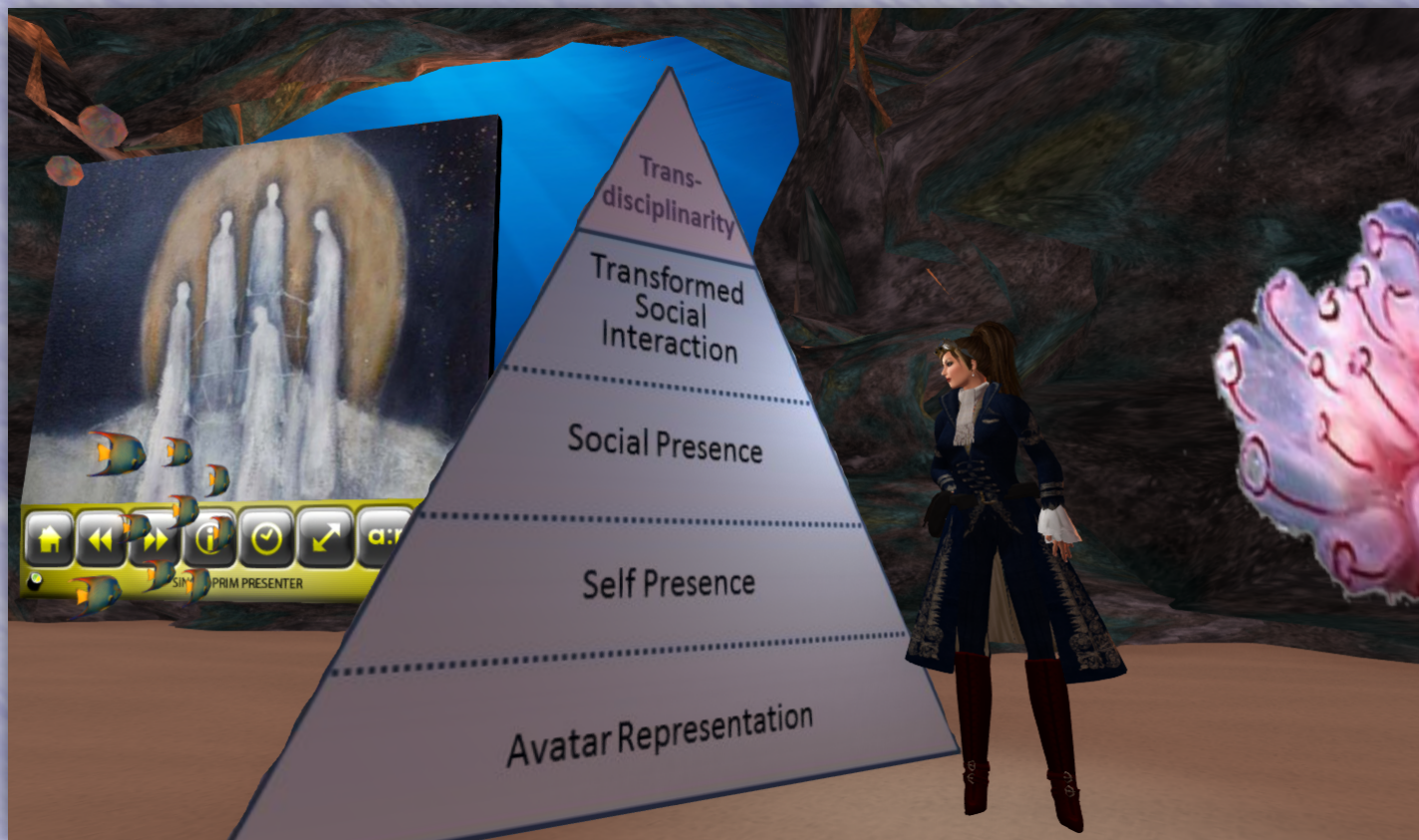
OpenSimulator Community Conference, Sept. 2013

Virtual Learning
Organization
Communities (VLOC)
and Virtual Open Online
Conferences (VOOC)?

Thank you!

<http://barbaratruman.com/research>

@barbaratruman



ISTE SIGVE Presenter Series – March 2014 Second Life