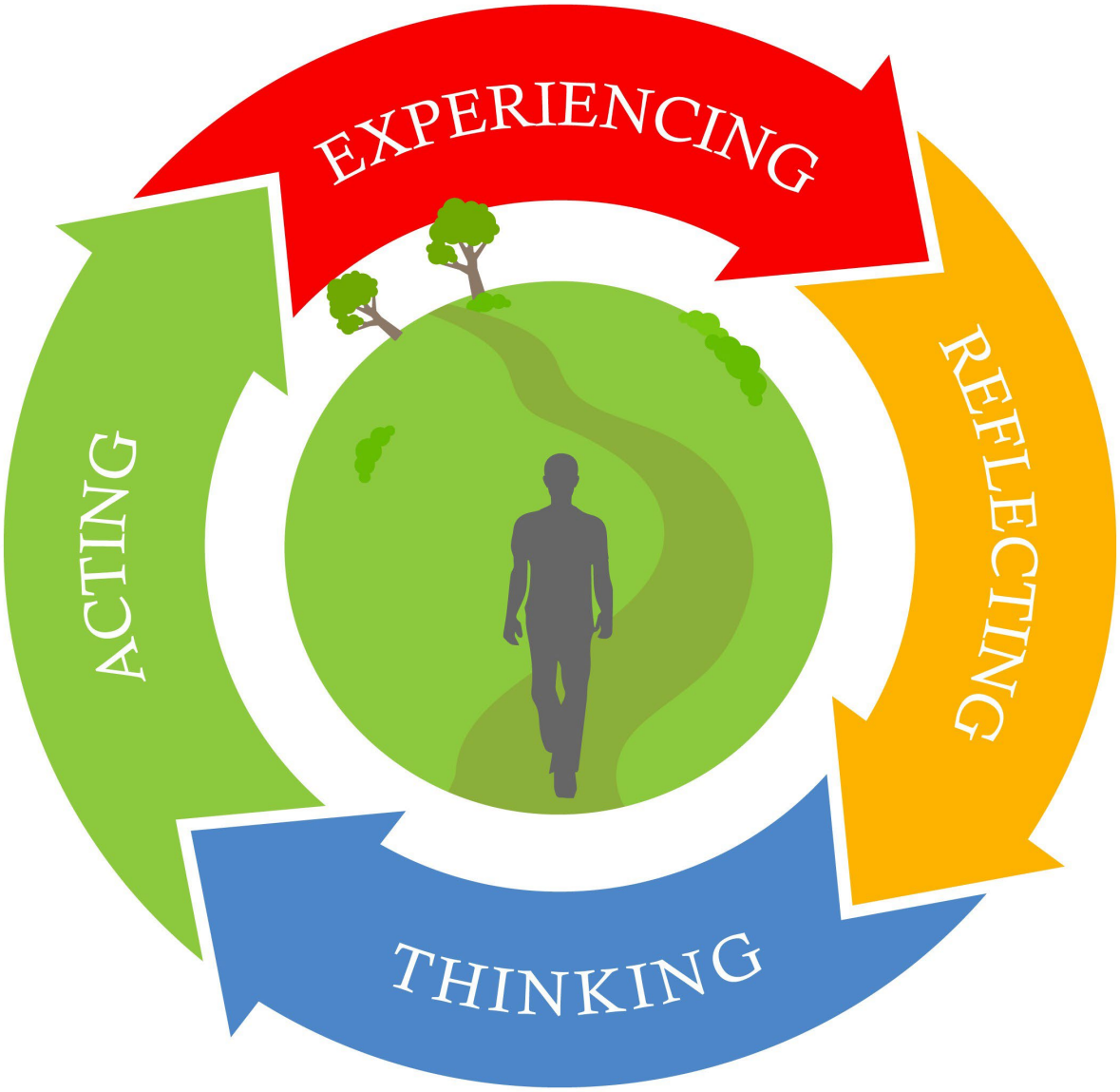


Educational experiences become experiential when the learner is fully present.

Karen L. Stock, Philip A. Cola & David A. Kolb

Educational Experiences Become Experiential When the Learner is Fully Present

Karen L. Stock
Associate Professor
Walsh University
kstock@walsh.edu

Philip A. Cola
Professor
Case Western Reserve University
Pac4@case.edu

David A. Kolb
Experience Based Learning Systems, LLC
Professor Emeritus
Case Western Reserve University
dak5@msn.com

Submitted for publication November 1, 2023. Not to be cited or quoted prior to publication.
Please share your thoughts and comments at dak5@msn.com

The 21st century has seen a dramatic rise in experiential learning research and practice. After the previous century, where research on subjective experience was for the most part excluded from academic journals, there is today a resurgence of scholarly research on experience and experiential learning. Roto and colleagues (2021) used keyword analysis to identify over 52,000 journal articles that studied experience from 1894-2018. 80% of these articles were published from 2009 to 2018. They concluded that "the most cited authors by the publications in our data set are Mihaly Csikszentmihalyi (psychologist), David A. Kolb (educational theorist), and Anselm L. Strauss (sociologist)." (2021, p. 6) Csikszentmihalyi's development of the experience sampling method and research on the flow experience, Kolb's experiential learning theory, and Strauss's work on grounded theory and qualitative research methods were key ideas guiding the resurgence in experience research.

The call for this special issue on the definition of experiential learning describes a similar rise in experiential learning practice in higher education. "Much of the field's current scholarship explores specific kinds of experiential learning or a given high-impact practice, such as service learning, undergraduate research, or first-year experience. Yet institutions are creating offices with a broader purview, with titles like Center for Experiential Education, Director of Engaged Learning, or AVP of High-Impact Practices. This same generalized language appears in college and university strategic plans, accreditation projects, and mission statements, as institutions seek to differentiate themselves, locate college learning in real-world settings, and make the case for higher education's value." The call for papers asks for a focus on three questions: 1. How do we know when a given educational experience is experiential? 2. How do we assure value for learners from a variety of racial and cultural backgrounds, and different prior experiences with formal education, work, and life? 3. How do we know?

We propose here to focus on the first question which raises some deeper questions and paradoxical puzzles. What is an educational experience? The courses in the curriculum and things like that are one answer. But outside the college walls or virtual classroom, every student is also immersed in their own continuous journey of lived experience. Are these lived experiences educational? Some may be, but in both cases, there is something more to experiential learning than just "having" an experience.

In this paper we argue that the "something more" is a process of experiencing, a process whereby the learner deeply engages with an experience. The learner takes the experience in, allowing it to influence their beliefs, feelings, ideas, and behaviors in a way that sticks. Dewey (1933) argued that such experiencing often arises only when one is "stuck" with a problem that interrupts business as usual or "struck" by an experience that is unexpected, surprising or awe inspiring. To learn from an experience, one must become personally engaged with it, fully present, deeply involved and actively participating either through reflection or action. Without this deep experiencing, a disengaged learner will shed educational information like water off a duck's back.

In short*, an experience becomes experiential when the learner is fully present.*

Conditions for Making Learning Experiential

Our role as educators is to create the conditions for engagement to happen. Angelo and Cross (1993) provide an illuminating case study of how students' beliefs about Astronomy and Science in general influenced their learning in an astronomy class. The instructor gave students a questionnaire asking to distinguish facts from opinions in astronomy and other areas. To the instructor's surprise, the result revealed that her students' mis-categorized astronomy related statements far more frequently than statements about everyday life problems, even after they have been exposed to the information in the astronomy course. The instructor learned from follow up interviews with students that they held highly negative and skeptical attitudes toward science, explaining the high degree of incorrect responses even from some of the brightest students. Several A and B students "simply did not believe that astronomers could judge the temperature of a star from its brightness, even though they knew that the statement "Brighter stars are generally hotter ones" is considered in astronomy to be a fact." (p.67). The instructor was surprised that, "students could do well in her class on most objective measures and could succeed in distinguishing facts from theories without necessarily accepting the general premises of fundamental values of the discipline. In other words, they could play the game without believing in it." (p. 67)

Many of us may have encountered similar situations in our teaching. Faced with such challenges, our inclination is to review what went wrong and focus on improving teaching strategies to correct such future students' misunderstanding. That was what the astronomy professor did. She was convinced that she needed to "devote more class time to making explicit the similarities and differences – between distinguishing facts form opinions in "everyday" settings and the more explicit and rigorous rules used by scientists." (p.67). *The challenge here, however, is not to speak more clearly about the facts but to be able to engage the underlying conversation about student beliefs and feelings about science in a way that opens them to a re-examination of those beliefs.*

A common error that we as educators make in doing experiential learning is to treat the lesson plan, exercise or simulation as a technique or method applied *to* rather than *with* the learner. The assumption is that if the steps of the method are applied, learning will be the result; notwithstanding the fact that learners may be disengaged or experiencing something quite different from the intended object of the lesson. We have observed numerous classes and training programs where participants are marched through one exercise, small group discussion and report out after another in a way that fails to engage them sufficiently to allow them to shape the flow of the event. Often this is because of a fear of losing control on the part of the educator, who is concerned about running off topic or over time.

As learners we also have responsibility for our own learning. We can use our meta-cognitive powers to bring ourselves into the present and focus on experiencing what is happening. When teachers and learners are aligned in their intentions to engage, magical things can happen and learning that sticks will result.

The Experiencing Scale

In our 2021 ELTHE paper (Stock & Kolb, 2021) we created the original Experiencing Scale (ES1) to explore the impact of experiencing on learning from *classroom experiential exercises in an introductory management course.* The scale included items from four well known contemporary theories of experiencing: Eugene Gendlin's Focusing (1978), Csikszentmihalyi's Flow (1991), Tellegen & Atkinson's Absorption (1974), and Mindfulness (Kabat-Zinn 1994, 2003; Langer, 1997, 2000; Brown & Ryan, 2003). Using exploratory and confirmatory factor analysis we found that presence was the first and by far the largest factor in the scale suggesting that the concept of presence was a central concept in all four of the theories, Focusing, Flow, Mindfulness, and Absorption. The Experiencing Scale reflects the common concepts we found in their work.

For this paper we offer a revised Experiencing Scale (ES2) based on additional research where we discovered the overarching importance of the role of presence and its ramifications for the experiencing process in *the lived experience of learners outside the classroom*. The ES2 was administered via Mechanical Turk to a broader international sample of individuals, which resulted in 330 responses. They were asked to focus their answers to an online survey based upon recollection of "a significant experience you have had that stands out for you" with the guideline that the experience could be something recent, or a more distant memory that can be easily recalled. Many of the experiences participants described were somewhat expected as they recalled a favorite vacation, the birth of a child or the loss of a loved one. However, we were intrigued by some unexpected responses. For example, one person vividly described the moment a life-altering decision was made when choosing his career - an excerpt of which follows:

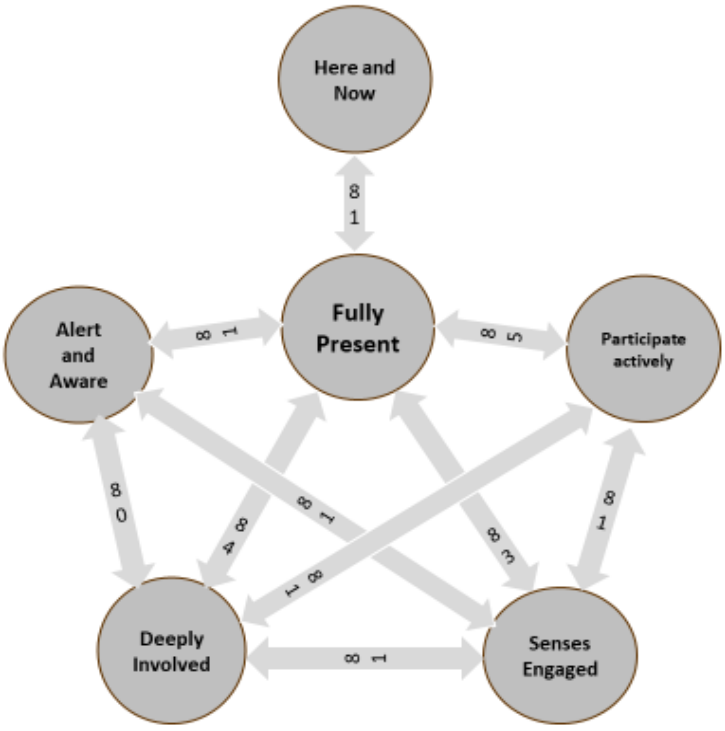
> I was a cadet at the Air Force Academy in my senior year and was to select my requested career path… I was to rack and stack my choices in order of preference, which was then sent to the greater career selection committee to assign careers based on class standing. I was in the top of my class and knew I would get whatever choice I selected. I had wanted to fly for the Air Force since 6th grade. I sat down at my computer to select "rated" and got an immediate and debilitating headache. It started in the back of my head and wrapped around the front. It was sudden and shocking. I decided I would deal with my career selection at a later time. The next day, I sat down to make my career selection and the same intense headache returned. As a person who does not get headaches often, I knew my body was telling me something and I needed to listen. I joke that it was God hitting me over the head with a 2x4 board to get my attention. Flying was my world...I had been taking flight lessons since I was 9 years old and had wanted to fly for the Air Force for almost half my life. Now, I was at a decision point that would completely change the direction of my future. I did not have a vision of who I was apart from flying. As a Christian, I prayed about it. I had not prayed specifically about this big decision (as I usually would have) because my steps up to that point had been blessed, so I felt I was following God's will for me. I was deeply conflicted and confused. Ultimately, I decided not to fly. I'm grateful for the path I have had but will always wonder "what if." Since that experience, I have never had headaches like the ones mentioned.

For another individual, an incident from early childhood stands out, even though many years have passed since that time. It is described as follows: "Brazil. 1989. I'm 3 years old. I'm facing my sister. She's 9 years old. I've eaten the meat on my plate. I want hers. She's cutting small pieces at a time with a fork and knife. I suddenly lunge at the remaining meat on her plate and shove it into my mouth. She wants to kill me, but my mom is there to protect me."

Analysis of the participant responses based upon these lived experiences outside the classroom are detailed in Appendix A, Research Method and Design. In this section we explain the progression to the 20 item ES2 (Appendix B), which upon confirmatory factor analysis, converged into an integrated single factor to describe the common themes of the four theories previously introduced with ES1. We also explain how non-parametric factor analysis was used to identify the strongest items in the ES2 scale. The analysis identified a network of six items centered around the item "I was fully present/I was somewhere else." The other five items describe characteristics that are strongly related and seem to flow from being fully present. Figure 1 illustrates this network of being fully present in experiencing.

Figure 1.

The Central Role of Being Fully Present in Experiencing



The relationships between the items in the figure are described as follows:

- *Being fully present linked to: "I was in the here and now/I was there and then."* To be fully present means entering the here-and-now, setting aside preoccupations with the

there-and-then. Lingering issues from the past and anticipations of future activities can be parked intentionally at the door in a "cubby" to be dealt with later.

- *Being fully present linked to:* "*I actively participated---I did not participate."* Active participation had the strongest relationship with being fully present. James Zull (2002) has argued that the brain is built to act, making action the most important phase of the learning cycle. Each act of active participation creates a new experience and deepens involvement.
- *Being fully present linked to: "I was deeply involved---I was uninvolved."* Engagement is another term for involvement. Presence is a doorway to becoming more deeply involved in learning.
- *Being fully present linked to: "My senses were engaged---My senses were not engaged."* In experiencing, we understand the world immediately and directly through our senses of vision, hearing, touch, taste and smell, plus lesser-known senses of direction and balance, kinesthetic movement, body awareness and intuition. Experiencing through sense perception is our point of continuous contact with reality.
- *Being fully present linked to: "I was alert and aware---I was easily distracted."* Alert and aware are two dimensions of the brain's "attention organ" with focus being the third. (Raz, 2004)

The six items in the figure represent the heart of the 20 item ES2 and are all highly interconnected with inter-correlations between.80 and .85, as indicated in the arrows between the items. This network of presence we have just described can be a useful shortened version of the ES2 scale and is shown in Appendix C. The rest of the items in the correlation matrix quickly fall below .80. Incidentally, the correlation between this presence network and the 20 item ES2 is .97.

Current Supporting Research for the ES2 Presence Network

Presence in the Virtual World

As part of the resurgence of experiential learning, scholarly research on experience has shifted from its original home in psychology and education to the technologies of the digital world. In Roto's study the top number of journal articles in four fields were education 12.8% software 7.6% human-computer interaction 6.6% computer networks and communication 5.9% (Roto et. al, 2021). Science goes where the problems are and the user experience and satisfaction with technology is a big problem. It is no surprise that presence is currently a focus of much research in fields like human-computer interaction and computer science, since presence is what is absent or problematic in the digital world. Several of these studies are of note because they address relationships among the elements in the ES2 presence network.

In 2016, Dunlap et. al. created a comprehensive model for developing on-line presence combining conversational learning and the learning cycle. Their Presence+Experience framework combines the Community of Inquiry model and Kolb's experiential learning cycle to guide online-course designers and educators in the purposeful design of presence in online courses. "We have found that the integration of the prescriptive stages of Kolb's experiential

learning cycle with the Community of Inquiry model has helped us create productive, meaningful, and flexible learning experiences for pSTEM teachers." (p. 150). They distinguish three types of presence: social presence, cognitive presence, and teaching presence. "*Social presence* is a term used to capture aspects of immediacy, intimacy, emotion, and/or connectedness between and among participants in an online course…*Cognitive presence* refers to the interaction students have with the content of a learning experience. Supported by teaching and social presence, students' cognitive presence is engaged through deep and relevant cognitive-processing activities and assessments that lead to enhanced conceptual understanding…*Teaching presence* refers to the decisions made related to the design, direction, and facilitation of social and cognitive-processing interactions in online courses… the design and facilitation of communication and interaction activities occurring between and among students, students and the instructor, and students and the content. " (p 147).

Krassmann et. al. (2020) studied presence in virtual and web-based online learning classes which they defined as a feeling of being there: "…the sense of online presence...refers to the psychological state of experiencing…the perceptual illusion that the experience is non-mediated." (p445) …the sense of presence "brings tangible benefits of engagement, enjoyment and sense of agency." (p 459) They also found connections between presence, participation, involvement, and attention like the ES2 network items actively participate, deeply involved and alert and aware. Dengel (2020) also studied virtual classrooms and called presence, a central criterion influencing immersive learning processes.

Khalil et. al. (2017) studied the impact of a web-based smoking prevention program and concluded: "The effect of the experience of interactivity and entertainment on health outcomes is supported by experiential learning theory…According to ELT, users of interactive applications can learn through the exploration of environments. In essence, first-hand exploration fosters curiosity and ultimately facilitates learning… Perceived presence is a key outcome in the context of Web-based interventions because interactivity and entertainment involve the experience of environments that demand attention and immersion. As a result of perceived presence, users of Web-based programs may experience *emotional involvement* ...and a greater emotional state is experienced because of a higher level of presence" (p2).

Presence in the Real-World

Presence is also a rising 21st century concern in the real-world classroom. For many kids and adults, too, absence begins with lack of sleep, lack of food, lack of internet connection and lack of human connections. It's a small miracle that many arrive to make the final connection, the work of learning, being present and engaged with learning about the subject of study. Parker Palmer (1998) suggests that presence is created when the object of study is brought into the room for both teacher and learner to explore and learn from as equals in conversation. The reality of the object becomes the final arbiter of differences. This reminds us of Morris Keeton and Pamela Tate's (1978) definition of experiential learning as learning where the learners come in direct contact with the realities being studied.

The emergence of haptic learning gives "direct contact with the realities being studied" a deeper meaning that goes beyond visual and auditory presentations. Haptic learning refers to the haptic sense, a new sense created by the gaming industry in the 1990's. The process of learning involves interaction with the learning environment through our five senses (sight, hearing, touch, smell, and taste). The haptic sense is a combination of touch sensations such as temperature, pressure, duration and kinesthetic movement. The gaming industry has developed haptic touch allowing for complex multimodal interactions online and multiple haptic touch applications in the cell phone-user interface.

Real world haptic learning brings this haptic touch sense to object-based learning. Object-based learning is prevalent in the GLAM sector (galleries, libraries, archives, and museums). "Object-based learning provides a more active, hands-on experience by interacting with objects. It also drives conceptual thinking about these objects, especially as visual and tactile stimuli provide added layers of knowledge experience to the written and spoken word through which we still predominantly share knowledge. Indeed, the ability to learn from the world around us and from each other, and the ability to transmit that learning to others through interaction with physical objects, has been identified as an important contributor to the evolutionary success of our species". (McGowan et. al., 2022, p. 97). In addition to the GLAM sector, the authors show applications of haptic/object-based learning, in three object-based learning case studies in anthropology using archaeological artifacts, written correspondence, and familiar objects from home.

Gress (2023) has argued that learning from physical objects is critical for the process of design: "…The basis of this need to start with concrete examples lies in the principle of connecting existing to new; humans are endowed to easily visualize, but only in terms of what they have witnessed before. Deprived of interacting with parts and prototyping solutions, students will not have any experiences to draw upon when problem solving in the future—which normally involves visualizing and sketching. No one can interpret, understand, or specify functions without having first experienced, witnessed or imagined their implementation in physical form. He states that "design students with no tactile or visual experience—and therefore without functional knowledge will use more of their brain regions associated with abstract reasoning when attempting to solve design problems. Having very little knowledge to abstract, however, they cannot progress past the problem-scoping stage to fully develop a solution. Even engineers who are trained analytically only remain so until they acquire experience with the specific problem type; after that they will visualize solutions. Design is thus considered by some as the *making of meaning*." (p. 2)

Summary and Conclusion

A prevailing view in education maintains that learning must be retained in long-term memory to be of any value. "The aim of all instruction is to alter long-term memory. If nothing has changed in long-term memory, nothing has been learned." The authors argue that constructivist, discovery, problem-based, experiential, and inquiry-based teaching methods increase cognitive load and are therefore ineffective. (Kirchner et al., 2006, p. 77). The implication, supported by the assessment methods used, suggests that our job as educators ends when students retain the declarative knowledge they have been taught.

Experiential learning has a deeper objective beyond conceptual "knowledge about", as William James called it, to include his "knowledge of acquaintance", hands-on perceptual experience with the objects of study. Our analysis here suggests that when learning is experiential, being present can produce a holistic embodied connection that sticks. Several studies comparing experiential learning methods with didactic methods show that retention of didactic teaching can equal or even exceed experiential methods in the short term, but longer-term assessments show that retention from didactic teaching methods is forgotten while experiential learning retention is retained (Specht & Sandlin, 1991, Baker & Robinson, 2018, Ibrahim et.al., 2020). Maybe the increased cognitive load involved in experiential learning is worth it. *Experiential learning produces learning that sticks, not just retained.*

The importance of presence in experiential learning is evident with the discovery of the presence network in our research, as we expanded our inquiry beyond the experiential classroom to contexts participants self-selected based on what they deemed to be a significant experience. What we have identified suggests that the holistic process of experiencing depicted in the second generation of the Experiencing Scale (ES2) is characterized by active participation, sensory engagement, deep involvement, alert/aware attention and being fully present in the here-and-now. When learners engage in these activities, educational experiences become experiential.

References

Angelo, T. A., & Cross, K. P. (1993). Minute paper. *Classroom assessment techniques: A handbook for college teachers*, 2, 148-153.

Baker, M., & Robinson, J. S. (2018). The effect of two different pedagogical delivery methods on students' retention of knowledge over time. *Journal of Agricultural Education*, 59(1), 100–118. https://doi.org10.5032/jae.2018.01100

Brown, K.W., & Ryan, R.M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. Journal of Personality and Social Psychology, 84, 822-848. http://dx.doi.org/10.1037/0022-3514.84.4.822

Brown, T. A., & Moore, M. T. (2012). Confirmatory factor analysis. *Handbook of Structural Equation Modeling*, *361*, 379.

Csikszentmíhalyi, M. (1991). *Flow: The psychology of optimal experience.* New York: Harper Perennial.

Dengel, A. (2020) *Effects of Immersion and Presence on Learning Outcomes in Immersive Educational Virtual Environments for Computer Science Education.* University of Passau Doctor of Philosophy thesis March 2020.

Dewey, J. (1933), *How We Think*. D. C. Heath.

Dunlap, J. C., Verm, G. & Johnson, H. L. (2016) Presence+Experience: A Framework for the Purposeful Design of Presence in Online Courses *Tech Trends* 60:145–151 DOI 10.1007/s11528-016-0029-4.

Gendlin, E. T. (1978). *Focusing*. Bantam.

Gershman, S. J., & Blei, D. M. (2012). A tutorial on Bayesian nonparametric models. *Journal of Mathematical Psychology*, 56(1), 1-12.

Gress, G. (2023). Born to Design: Innate Human Behaviors Involved in Learning and Practicing Engineering Design. In T. Heinbockel (Ed.) *Learning and memory – From molecules and cells to mind and Behavior*. Intechopen. http://dx.doi.org/10.5772/intechopen.1002800

Hair, J.F., Black, W. C., Babin, B.J., & Anderson, R.E., (2018). *Multivariate Data Analysis* (8th Edition). Cengage.

Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological methods*, *3*(4), 424.

Ibrahim, M. F., Huddin, A. B., Hashim, F. H., Abdullah, M., Rahni, A. A. A., Mustaza, S. M., Hussain, A. & Zaman, M. H. M. (2020). Strengthening programming skills among engineering students through experiential learning based robotics project. *International Journal of Evaluation and Research in Education*, 9(4), 939-946.

Kao, E. P. (1969). A non-parametric approach to the 2^3 factorial design. *Technometrics,* 193-196.

Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. Hachette Books.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: past, present, and future. *Clinical Psychology: Science and Practice*, 10, 144-156 http://dx.doi.org/10.1093/clipsy.bpg016

Keeton, M. T. & Tate, P. J. (1978). *New directions for experiential learning: Learning by experience – what, why, how.* San Francisco: Jossey-Bass.

Khalil, G. E.; Wang, H.; Calabro1, K.S.; Mitra, N.; Shegog, R. & Prokhorov, A. V. (2017). From the Experience of Interactivity and Entertainment to Lower Intention to Smoke: A Randomized Controlled Trial and Path Analysis of a Web-Based Smoking Prevention Program for Adolescents. *J Med Internet Res 2017;19(2):e44)* https://doi.org/10.2196/jmir.7174

Kirschner, P. A., Sweller J. & Clark, R. E. (2006) Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. Educational Psychologist, 41(2), 75–86

Krassmann, A. L., Herpich, F., Tarouco, L.M.R., Bercht, M. (2020). Investigating the Relation Between Sense of Presence, Attention and Performance: Virtual Reality Versus *Web Springer Nature Switzerland AG 2020 C. Stephanidis et al. (Eds.):* HCII 2020, LNCS 12425, pp. 445–461, 2020. https://doi.org/10.1007/978-3-030-60128-7_34

Langer, E.J. (1997). *The power of mindful learning*. Cambridge, MA: Persesus Publishing.

Langer, E. J. (2000). Mindful learning. *Current Directions in Psychological Science*, 9(6), 220-223.

McGowan, G., Hoffstaedter, G. & Creese, J. (2022). Object Based Learning in the Social Sciences: Three Approaches to Haptic Knowledge Making 2022, *Teaching Anthropology* Vol. 11, No. 2, pp. 97-107.

Palmer, P. (1998) *The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life*. San Francisco: Jossey-Bass.

Raz, A. (2004). Anatomy of attentional networks. *The Anatomical Record Part B: The New Anatomist: An Official Publication of the American Association of Anatomists*, 281(1), 21-36.

Roto, V., Bragge, J., Lu, Y., & Pacauskas, D. (2021) Mapping experience research across disciplines: who, where, when. *Quality and User Experience*. 6:7, 1-26. https://doi.org/10.1007/s41233-021-00047-4

Specht, L. B., & Sandlin, P. K. (1991). The differential effects of experiential learning activities and traditional lecture classes in accounting. *Simulation & Gaming*, 22(2), 196-210.

Stock, K. L., & Kolb, D. (2021). The experiencing scale: an experiential learning gauge of engagement in learning. *Experiential Learning & Teaching in Higher Education,* 4(1), Article 6.

Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences ("absorption"), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology*, 83(3), 268. https://psycnet.apa.org/doi/10.1037/h0036681

Wind, S. A. (2017). An instructional module on Mokken scale analysis. *Educational Measurement: Issues and Practice*, 36(2), 50-66.

Zull, J. (2011). *From brain to mind: Using neuroscience to guide change in education*. Sterling, VA: Stylus Publishing, LLC.

Appendix A. *Research Method and Design*

Confirmatory Factor Analysis

We applied two types of factor analysis to the data collected for this study (i.e., confirmatory factor analysis and non-parametric factor analyses) which are described in more detail below. Overall, factor analysis is a statistical technique used to identify underlying dimensions (or factors) that explain the correlations between observed variables (items).

Confirmatory factor analysis (CFA) is used to verify the factor structure of a set of observed variables. CFA allows researchers to test hypotheses that a relationship between observed variables and their underlying latent constructs exists (Brown & Moore, 2012). The CFA was conducted using AMOS version 28. It should be noted that the scale used for this study

included the addition of 4 new items in a paired comparison format. These were added to the initial scale in an effort to determine if these new items would strengthen the factors previously identified. Specifically, to represent the Novelty factor, we added Q8 “It was a new experience for me” vs. "It was not a new experience for me" and Q9 “My curiosity was aroused” vs. "My curiosity was not aroused." Also, to represent the Embodiment factor, we added Q25 “The experience felt authentic” vs. “The experience felt superficial” and Q26 “I was attuned to my feelings” vs. “I was not attuned to my feelings." With these added items, we found that the model fit was adequate (see Table 1 below). We built the original confirmatory factor analysis following the approach of the Stock & Kolb, 2021, which they used in establishing validity and reliability of the Experiencing Scale (ES1) initially.

However, in a different sample that was used for this study and that fact that the participants were primed “to think about a meaningful experience in their life and to write text about that experience” we found that the previous three factor solution used for the ES1 in the Author, 2021 paper did not provide the expected three factor solution. It was found that a single factor solution was the best model for this data with “primed” participants. See Figure 2 below. In examining this outcome, we determined that when every item loads on one factor, it implies that all the items are highly correlated and share a common underlying factor.

There are some strengths to the scenario of a one-factor solution as follows: A one-factor solution offers a degree of simplicity and clarity around the primary measure of experiencing (Hair et al, 2018). This is most straightforward and easy to interpret. It suggests that all the items are closely related and can be summarized by a single factor, making it a simple model with a focus on what we set out to measure as experiencing.

With a large set of items (N=22) we set out to apply dimension reduction techniques, and a one-factor solution can reduce complexity by collapsing them into a single primary dimension. This can be particularly useful when you want to reduce the number of variables in your analysis to the primary construct which in this case is experiencing. We ran several CFA models and found that two items were not loading nearly as well as the other items on the scale. Those items Q20 “I was not self-conscious” vs. “I was self-consciousness” and Q21 “I didn’t notice the passing of time” vs. “I was aware of time passing” had low or problematic factor loadings. Self-consciousness loaded consistently at approximately 0.30, which was much lower than all other items. Q21 –time, had factor loadings greater than 1.0 indicating multicollinearity with the latent construct. These items were both removed resulting in a final CFA model with N=20 items as depicted in Figure 2.

A one-factor solution can indicate that the underlying construct that is being measured is unidimensional (Hair et al, 2018), meaning it has a single dominant dimension that we chose to term experiencing. This helps in constructing more concise measures of the construct. It also shows a high degree of internal consistency when all items are loaded on one factor. This happens because all the items are measuring the same thing, and this is beneficial when assessing or discussing reliability.

A one-factor solution best aligns with theoretical expectations and clarity of the concept under study and these ideas enhance the face validity of the measurement being studied (Hair et al, 2018). Below we also provide the Single Factor Model and the model fit statistics in Table 1.

Figure 2.

CFA Single Factor Model

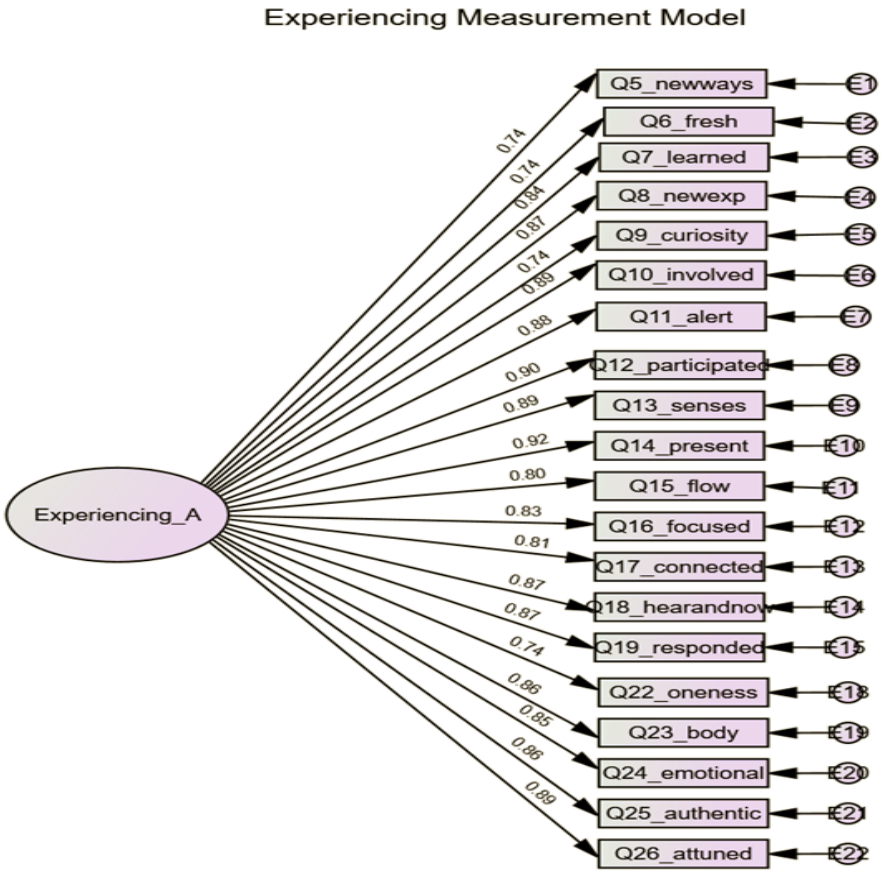


Table 1.

*Model Fit Statistics for Single Factor CFA Solution**

Model	**X2 (DF)**	**p-value**	**CFI**	**TLI**	**RSMEA**	**RMSEA P-Close**	**SRMR**	**Loadings**
1 Factor Model (20 items)	698.437 (170)	<.001	0.930	0.914	0.097	<.001	0.032	All except 1 loading >.7, p<.001 (Q8 = 0.67)

								Omits 2 items Q20 and Q21 based on EFA results

*Adequacy determined per Hu & Bentler, 1998

Non-Parametric Factor Analysis

To identify what we refer to in Figure 1: The Central Role of Being Fully Present in Experiencing, or the Presence Network, we used a non-parametric factor analysis. We chose this approach because traditional factor analysis methods, like Principal Component Analysis (PCA) and Maximum Likelihood Factor Analysis, make assumptions about the data distribution, often assuming multivariate normality. Non-parametric factor analysis does not make such parametric assumptions.

It is essential to understand the objectives and constraints of each method. While non-parametric methods provide flexibility, they may not always offer the same depth of insight or inferential power as their parametric counterparts. For the purposes of this analyses, we wanted to be flexible and identify the key components to center our analyses around the primary factor(s). Thus, the non-parametric test seemed the most reasonable approach as we did not want to make assumptions around normality.

Instead, non-parametric methods rely on rank orders or other distribution-free methods. One of the most common non-parametric techniques related to factor analysis is the Mokken Scale Analysis (Wind, 2017) which is used for scaling ordinal data. This method has been gaining popularity in the past decade and is an approach used in some multivariate software packages currently. We used a non-parametric factor analysis approach in SPSS to achieve the analysis reported in this paper.

Non-parametric factor analysis is useful in certain situations to yield models that look at structurally rich problems in a coherent manner (Greshman & Biel, 2012) and therefore we found the approach applicable to our dataset. Kao (1969) introduced ideas around non-parametric analyses to factorial design methods where assumptions about the data cannot be made with confidence. These and other papers collectively indicate that non-parametric factor analysis provides alternative approaches for data analysis in various fields of study including psychological and social science research.

Appendix B

Experiencing Scale 2 (ES2)

Instructions: Read each of the item pairs on the left and right side. Then, mark the button that best describes your experience.

1	I saw things in new ways.	O	O	O	O	O	O	O	My views did not change.
2	It was fresh & new.	O	O	O	O	O	O	O	It was pretty much as I expected.
3	I learned something new.	O	O	O	O	O	O	O	I didn't learn anything new.
4	It was a new experience for me.	O	O	O	O	O	O	O	It was not a new experience for me.
5	My curiosity was aroused.	O	O	O	O	O	O	O	My curiosity was not aroused.
6	I was deeply involved.	O	O	O	O	O	O	O	I was uninvolved.
7	I was alert and aware.	O	O	O	O	O	O	O	I was easily distracted.
8	I actively participated.	O	O	O	O	O	O	O	I did not participate.
9	My senses were engaged.	O	O	O	O	O	O	O	My senses were not engaged.
10	I was fully present.	O	O	O	O	O	O	O	I was somewhere else.
11	I was "in the flow".	O	O	O	O	O	O	O	I felt resistant.
12	My attention was focused.	O	O	O	O	O	O	O	My attention wandered.
13	I felt connected and whole.	O	O	O	O	O	O	O	I felt scattered.
14	I was in the here-and –now.	O	O	O	O	O	O	O	I was there-and-then.
15	I responded to what was happening.	O	O	O	O	O	O	O	I was on "automatic pilot."
16	I felt a sense of oneness with the natural world.	O	O	O	O	O	O	O	I did not feel a connection with the natural world.
17	I felt the experience in my body.	O	O	O	O	O	O	O	I had no bodily sensations.
18	The experience was emotional.	O	O	O	O	O	O	O	I had no emotional reactions.
19	The experience felt authentic.	O	O	O	O	O	O	O	The experience felt superficial.
20	I was attuned to my feelings	O	O	O	O	O	O	O	I was not attuned to my feelings.

Appendix C

Experiencing Scale 2 Shortened Form: The Presence Network

Instructions: Read each of the item pairs on the left and right side. Then, mark the button that best describes your experience.

1	**I was deeply involved.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**I was uninvolved.**
2	**I was alert and aware.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**I was easily distracted.**
3	**I actively participated.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**I did not participate.**
4	**My senses were engaged.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**My senses were not engaged.**
5	**I was fully present.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**I was somewhere else.**
6	**I was in the here-and –now.**	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**I was there-and-then.**