Experiential Learning Theory Bibliography
Volume 6   2017 - 2019
Prepared by Alice Kolb & David Kolb

The bibliography contains 219 references with abstracts on experiential learning theory from 2017-2019. The references have been selected for their important contributions to Experiential Learning Theory from the nearly 100 thousand citations of ELT on Google Scholar and ResearchGate. The bibliography is in PDF and formatted in APA style. Many research studies listed in the bibliography can be accessed through research databases such as: Web of Science Citation Index, MEDLINE, Education Abstract, Dissertation Abstract, ERIC Document, Google Scholar and others. To review and access current citations of ELT related works go to: http://scholar.google.com/citations?user=MBn_GG4AAAAJ&hl=en   For online access to the bibliography, the Learning Style Inventory and other experiential learning resources go to www.learningfromexperience.com Please send any additions and corrections to dak5@msn.com Revised 6/19.

A

Abbott, C. (2017). Pictorial Construction – Pictorial Speech? Experiential Learning and Co-Design as models for exploring sustainable development issues through Graphic Design principles and techniques. *Spark: UAL Creative Teaching and Learning Journal* Vol 2 / Issue 1 (2017) pp. 4-14 *

> Issues around sustainable development are characterised by the complexity of interactions between social and ecological systems, a complexity that is underrepresented by diagrammatic representation and only partially comprehended through single disciplines. This paper seeks to address this by exploring how models of Co-Design and Experiential Learning can encourage multi-disciplinary engagement with, and reflection upon, issues around sustainable development. Using the Graphic language of 'Ideograms', a 45 minute workshop was developed that encouraged participants to create pictorial representations of issues around sustainability of personal significance. The resulting focus group discussion highlighted the iterative processes key to Co-Design, and its effectiveness in encouraging debate and reflection upon sustainability issues.

Abreu1, P. H., Martins, P., Machad, P., Arrais, J. P. & Gomes, A. (2018). The Relationship Between Learning Styles and Creativity Students: An Information Visualization Class Case Study. Conference Paper.

> Over the years, many research works have addressed the problem of identifying the

students learning styles in academic contexts. Usually, these studies have focused on courses like the ones related to computer programming in which students have a set of predefined exercises and assignments whose goal is to achieve known outputs through the exploration of a reduced number of different strategies. This inherent lack of creative freedom masks somehow the influence that learning styles have in students learning processes. The main goal of the proposed study is to constitute a first step in eliminating this gap, which is achieved by analyzing students learning styles in a creative environment (an Information Visualization course is used as case study). As part of a Masters degree program in Design and Multimedia, the Information Visualization course attempts to present the students with big data contexts exploring powerful metaphors in a complete, effective and aesthetically appealing way. To identify the students learning styles, the Felder's Learning Model was used and a correlation analysis between those styles and the final scores was performed. In both exams, negative correlations between Sensory/Intuitive (-0.58, -0.55) and Sequential/Global (-0.5,- 0.51) were detected and some relations between the students learning styles and their exams performances were also detected.

Ahmed MH. (2018). Reflection for the undergraduate on writing in the portfolio: where are we now and where are we going? *J Adv Med Educ Prof*. 2018;6(3):97-101*

Introduction: The portfolio can be seen as a tool for assessment of a variety of learning activities that differ in content, usage, and assessment. The portfolio not only meets the learner's educational needs but also the political and public reassurance demand that the health professional has achieved the required competency of the curriculum that allows him or her to practice safely with or without supervision in the health organization.
Methods: An in-depth search on Google Scholar, Medline and PubMed was conducted using the terms "reflection and portfolio" with especial emphasis on undergraduates. All the manuscripts collected were critically reviewed regardless of the date of publication.
Results: Even though the systematic review showed the limited effect of the educational impact of the portfolio on the undergraduate, numerous benefits can be seen, e.g. improvement in the relationship between students and tutors, an increase in general knowledge, awareness and reflection. Reflection for medical undergraduates in portfolio per se was associated with improvement in communications skills, professionalism and better achievement in postgraduate studies and increase in experiential learning. Interestingly, the portfolio was shown to be useful for undergraduate and tutors in filling the gaps of learning in clinical surgery, urology and geriatric medicine. In addition, for dental and nursing students it was associated with an increase in professionalism, clinical competency, and self-confidence. Lack of integration of reflection throughout the curriculum of the medical school was considered one of the main problems.

Conclusion: Further research is needed to address the following
questions (i) it will be of interest to assess if there is any difference in reflective portfolio
between students from problem-based learning (PBL) curriculum and those from
traditional curriculum. (ii) Assess the difference in reflective portfolio
between community-oriented and PBL curriculum and PBL
and traditional curriculum (iii) if there is any difference in the
reflective portfolio in these three curriculums, it will be of interest
how this can alter the evidence base of the educational effects of
the portfolio. In other words, is there any curriculum that will
consistently produce evidence based educational effects of the
portfolio?

Aissaoui, Q. E., Alami,Y. E. & Oughdir L. & Allioui, Y. E. (2018). A fuzzy classification approach for learning style prediction based on web mining technique in e-learning environments. *Education and Information Technologies.* https://doi.org/10.1007/s10639-018-9820-5 *

Adaptive E-learning platforms provide personalized learning process relying mainly on learning styles. The traditional approach to find learning styles depends on asking learners to self-evaluate their own attitudes and behaviors through surveys and questionnaires.
This approach presents several weaknesses including the lack of selfawareness of learners of their own preferences. Furthermore, the vast majority of learners experience boredom when they are asked to fill out the corresponding questionnaire.
Besides that, traditional approach assumes that learning styles are fixed, and cannot change over time. In this paper, we propose a generic approach for detecting learning styles automatically according to a given learning styles model. In fact, our approach does not depend on a specific LSM. This work consists of two major steps. First, we extract learning sequences from learners log files using web usage mining techniques. Second, we classify the extracted learners' sequences according to a specific learning style model using clustering algorithms. To perform our approach we use Felder-Silverman Model as LSM and Fuzzy C-Means as a clustering algorithm. We have conducted an experimental study using a real-world dataset. The obtained results show that our approach outperforms traditional approach and provides promising results.

Akhigbe T. (2018). Cognitive-behaviorism and experientialism in emergency medicine training: from theory to practice in a teaching hospital. *Int J Med Rev*. 2018;5(3):87-89. doi:10.29252/IJMR-050301 *

Learning theories can be important in developing result-producing and sound teaching methods if not viewed as merely academic concepts in emergency medicine education. Several learning theories have been encountered and utilized in our emergency department (ED). Most times, learning can be self-directed, self-motivated, lifelong learning. However, the drawbacks of applying learning theories in our ED are that the teaching is not well-structured or systematic, the environment can be very challenging on busy days, and effective learning under such conditions can be limited. Despite the busy

and tension-soaked environment in an ED, learning is still very possible for motivated trainees who understand the dynamics of learning and teaching theories. Understanding disease demands that trainees be knowledgeable, skillful, and capable of self-directed, lifelong learning.
Keywords: Learning, Teaching Methods, Emergency Medicine

Akrivou, K., Semper, J. V. O. & Scalzo, G (2018). *The Inter-Processual Self: Towards a Personalist Virtue Ethics Proposal for Human Agency.* Cambridge Scholars Publishing ISBN (10): 1-5275-0827-7 ISBN (13): 978-1-5275-0827-9

Aleksic, V & Ivanovic, M. (2017) A Literature Review of Empirical Research on the Effects of Digital Games on Learning Styles and Multiple Intelligences. *Croatian Journal of Education* Vol.19; No.2/2017, pages: 511-562 *
The paper presents a review of literature resources that studied the effects of digital games on students' learning and intelligence. The research included 5,740 scientific papers from 11 electronic repositories that presented various evidence of multidimensional impact of digital games on students. Categorization and application of multiple qualitative criteria identified 36 representative papers that presented empirical evidence. Various indicators and benchmarks used in papers were analysed, taking into account the methodological limitations. The results confirm the complex relations between digital games and learning styles and multiple intelligences on which the recommendations and questions for future research are created.

Alshehri, M. A. (2017). TEACHING CLINICAL REASONING TO PHYSIOTHERAPISTS IN SAUDI ARABIA: A THEORETICAL REPORT. *Int J Physiother*. Vol 4(2), 106-111 *
Background: Clinical reasoning (CR) is an essential skill that should be taught to all healthcare professionals. In physiotherapy, it is a cognitive process whereby physiotherapists collect and assess patient data to make a diagnosis and develop an effective treatment plan. Several teaching and learning theories have been developed and used in healthcare education. The purpose of teaching is to facilitate the learning process and the successful development of practitioners in the community. Learning is defined as a knowledge process that is developed through experience which is used to manage daily life situations. The aim of this report is to explore teaching and learning theories and strategies to teach clinical reasoning to physiotherapy students in Saudi Arabia. Discussion: Although it is challenging to completely change the teaching methods in Saudi universities due to the education system rules already in place, some modules in physiotherapy are different, as they are practical and based mainly in a clinical hospital setting. As such, certain teaching and learning theories could be employed to facilitate student teaching. Indeed, a mixed method based on several theories taking into consideration the context, culture, students' learning styles and the type of knowledge would be most appropriate. Conclusion: There is a debate about the best theory for teaching physiotherapy students. In the context of clinical reasoning, a behaviorism approach is not suitable, in contrast, constructivism is more appropriate, and thus, Saudi physiotherapy educators should consider constructivism strategies for teaching clinical reasoning.

Amod, H.B. & Brysiewicz, P. (2019) Promoting experiential learning through the use of high-fidelity human patient simulators in midwifery:A qualitative study. *Curationis* 42(1), a1882. https://doi.org/10.4102/curationis.v42i1.1882 *

> Background: The need to use innovative teaching and learning strategies in the nursing pedagogy is important in the 21st century. The challenges of clinical sites and opportunities for nursing students to gain clinical experience are a growing concern for many nurse educators. High-fidelity human patient simulators (HFHPS) are computerised mannequins that replicate a real-life patient, and when integrated into classroom teaching they allow students to become fully immersed into an almost real-life scenario.
> Objectives: The aim of this study was to describe how HFHPS can promote experiential learning following the management of postpartum haemorrhage as a midwifery clinical emergency.
> Method: A descriptive qualitative research approach was carried out in this study. The research setting was a local university in KwaZulu-Natal. The total population included all (N = 43) fourth-year baccalaureate of nursing undergraduate student midwives who participated as observers and/or role-players of a scenario role-play. An all-inclusive sampling was performed. There were 43 student midwives involved in the simulation teaching session with 6 of these students actively participating in each role-play at a time, while the remaining 37 observed. This occurred in two separate sessions and all the student midwives were involved in a debriefing session. These student midwives were then followed up and asked to participate in a focus group. The data in this article came from two separate focus groups which comprised 20 student midwives in total. Data were analysed using content analysis.
> Results: Four categories emerged from the data, namely HFHPS offers a unique opportunity for student midwives to manage complex real-life emergencies; promotes reflection by allowing student midwives to reflect or review their roles, decisions and skills; allows student midwives to learn from their own experiences and encourages student midwives to try out what they learnt in a real-life situation.
> Conclusion: High-fidelity human patient simulators can be used in a complex case scenario to promote experiential learning of a clinical emergency.

Amolloh, O. P., Lilian, G. K. & Wanjiru, K. G. (2018). Experiential Learning, Conditional Knowledge and Professional Development at University of Nairobi, Kenya—Focusing on Preparedness for Teaching Practice. *International Education Studies*; Vol. 11, No. 7; 2018 ISSN 1913-9020 E-ISSN 1913-9039 *

> Experiential learning requires teacher educators to equip trainee teachers with opportunities for effective preparedness in teaching and professional subjects, co-curricular activities and in micro-teaching vital for professional development. The experiential learning opportunities, conditional knowledge, preparedness and performance during teaching practice provide basis for predicting professional competence and success for effective teaching. Conditional knowledge entails application of critical thinking and problem solving skills that demonstrate mastery of theoretical knowledge and professional practice across, content, knowledge, skills and insights. This type of knowledge and skills are developed through experiential learning coupled with effective preparedness for real-class instructional management. However, inadequate preparation in educational courses coupled with improper supervision and feedback

impede effective professional development in most universities. The study explored effectiveness of experiential learning and conditional knowledge in trainee teacher preparedness for teaching practice at the University of Nairobi. Experiential Learning Theory formed the framework for this study. A descriptive survey research design was adopted with a population of 78 trainee teachers selected using simple random sampling. Data were gathered through a questionnaire. Finding showed that
trainee teachers are adequately prepared for teaching practice. The study recommends proper orientation for trainee teachers to be carried out with effective preparedness that aligns theory to practice.

An, D. & Carr, M. (2017). Learning styles theory fails to explain learning and achievement: Recommendations for alternative approaches. *Personality and Individual Differences* Volume 116, 1 October 2017, Pages 410-416 *

> The purpose of this paper is to propose a multiple approaches to explaining and predicting individual differences in learning. First, this article briefly reviews critical problems with learning styles. Three major concepts are discussed: lack of a clear, explanatory framework, problems of measurement, and a failure to link learning styles to achievement. Next, this paper presents several alternative approaches to learning styles that do a better job of explaining how learning styles might predict achievement. Alternatives to learning styles include individual differences in verbal and visual skills, expertise and domain knowledge, self-regulation and inhibition, and perfectionism. For expertise and domain knowledge, knowledge representation and fluency are specifically discussed. It is recommended that the new approach that focuses on individual differences in learning be used by teachers.

Andres, H. P. (2017). Active teaching to manage course difficulty and learning motivation. *Journal of Further and Higher Education.* Volume 43, 2019 - Issue 2
https://doi.org/10.1080/0309877X.2017.1357073

> Given the recent reported common occurrence of mediocre or substandard academic performance by students in colleges and universities, it has become essential to identify pedagogical factors that might lessen or reverse this trend. Kolb's experiential learning, Pintrich's student learning motivation, and cognitive load theories were used as a framework to assess active teaching moderation of the effects of course difficulty on course performance and learning motivation. Hierarchical ordinary least squares (OLS) regression was used to analyse the data. Research subjects were recruited from a medium-sized historically Black college and university (HBCU) students enrolled in STEM (science, technology, engineering, and mathematics) and Business (i.e. management, economics, or accounting) classes. Active teaching was a positive predictor of course grade and learning motivation. Course difficulty was a negative predictor of course grade. Interaction analysis revealed that increases in active teaching reduced (i.e. moderated) the negative relationship between course difficulty on both course grade and learning motivation. Overall, the findings suggest that student learning outcomes are certainly a function of pedagogy (e.g. active teaching), psychological/affective (e.g. learning motivation), and learning content complexity. Active teaching environments should (1) address both cognitive load and emotional responses attributed to difficult coursework, and (2) provide efficacy building opportunities during instructional delivery.

ANDREWS, A., BROWN, B. & MESHER, L. (2018) ENGAGING STUDENTS WITH ASSESSMENT AND FEEDBACK: IMPROVING ASSESSMENT FOR LEARNING WITH STUDENTS AS PARTNERS. *Practitioner Research in Higher Education.* Special Assessment Issue University of Cumbria Vol 11(1) pages 32-46 *

> Within the Higher Education sector in the UK, it is acknowledged that the area of 'Assessment and Feedback' receives consistently poor levels of satisfaction from students when they complete module level feedback, course level feedback and the National Student Survey (NSS). There is evidence to suggest that this problem is pronounced within Schools of Architecture, particularly with the assessment and feedback of design work. This case study describes reflective practice at Portsmouth School of Architecture, UK, where academics worked in consultation with students to identify the issues. The aim of the project was to evaluate assessment and feedback strategies from across the School resulting in the creation of a new and innovative set of 'Assessment for Learning' tools produced with students as partners. These tools include: a refined marking matrix, an improved 'design review' and a 'lexicon' for marking design projects to enhance understanding and autonomy. This case study also explores how alignment and enhancement of learning through assessment and feedback and the quality of assessment tools has the ability to increase students' confidence and assessment literacy, their overall satisfaction and levels of autonomy.

Awidi, I. T. & Paynter, M. (2019). The impact of a flipped classroom approach on student learning experience. *Computers & Education* 128 (2019) 269–283 *

> In this paper we report on our evaluation of the impact of a flipped classroom approach on the learning experience of students undertaking an undergraduate biology course. The flipped sessions comprised pre-recorded lectures, online quizzes and in-class group activities in the course design. The success of the approach was evaluated on the basis of perceptions held by the course coordinator and students on how the new course design influenced the student learning experience. Data were collected through a student questionnaire and structured interviews with the course coordinator. Overall, the students reported a high degree of satisfaction with some elements of the flipped approach. However, some activities were less well regarded, with concerns identified by the course coordinator and students. A key finding was that elements from the model for student learning design presented in this article were correlated with student confidence, motivation and engagement. It was concluded that refinements of components of the flipped design, such as the pre-recorded lectures and the structure of the in-class sessions, may further enhance the student learning experience in this course.

B

Baker, M. A. & 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.org/10.5032/jae.2018.01100 *

> The purpose of the study was to determine the effect of two contrasting pedagogies (i.e.,

experiential learning and direct instruction) on students' retention of agricultural knowledge over time. A six-week deferred post-test was employed to assess long-term retention of the subject matter. The results indicated that initially, students who were taught both experientially and through direct instruction experienced a statistically significant increase in analytical scores, with the direct instruction treatment group outperforming the experiential learning treatment group. However, that increase was not statistically significant but was followed by a statistically significant decrease in analytical scores six weeks following instruction. Implications exist for preparing instructors to pace their lessons in a slower fashion to increase understanding and mastery of the content learned.

Balent, C., Johnson, J., Hendrikx, J. & Shanahan, E. A. (2018). THEORY AND PRACTICE IN INTRODUCTORY AVALANCHE EDUCATION. Proceedings, International Snow Science Workshop, Innsbruck, Austria. *

This study examines how students experience an AIARE Level 1 avalanche course. How do they describe their experience? What motivated them to take the course, what did they think the course was about, and what did they value? How do they talk about decision making, risk and learning before and after the course? Participants' responses indicate a desire for a pragmatic, hands-on learning experience, and while participants report positive outcomes, they also describe a dilemma with regard to their experience of the course, suggesting that perceived gains might be limited. A comparative lens locates this dilemma between differing theoretical models, indicating the need for further examination of the theory and practice of avalanche education.

Baoa, F.,Tian, L., Bu, L, Xunyong Xiang, X. & Zhao, Y. (2017). Experience distribution, experienced leaders, and team performance. *Knowledge Management Research & Practice,* https://doi.org/10.1080/14778238.2017.1408538 *

Although research has indicated that organisational performance can be improved by investigating and learning from experiences, some studies have found that organisations may generate incorrect lessons or fail to learn. This study addresses this inconsistency by turning attention to experience distribution over time. Drawing from the experiential learning perspective, we argue that highly concentrated failure experiences and highly dispersed success experiences in a time period will impose negative impacts on organisational learning. Further, we also find that experienced leaders will ameliorate such negative effects through "circumventing" and "inspiring" mechanisms. We find support for our theory through a set of panel data collected from the teams of National Basketball Association during the 2003–2004 and the 2012–2013 seasons.

Barron, D.,Khosa, D. & Jones-Bitton, A. (201710. Experiential Learning in Primary Care: Impact on Veterinary Students' Communication Confidence *Journal of Experiential Education* 2017, Vol. 40(4) 349–365 *

Experiential learning is essential in medical and veterinary student education and can improve students' communication with clients during medical appointments. There is limited research in veterinary education investigating the effectiveness of experiential

learning environments to provide an integrative approach to teaching. The present study uses an experiential learning environment to introduce an integrative approach to communication skills training in veterinary clinical education. Participants were final year veterinary students whose self-confidence around 28 common clinical communication statements frequently discussed in clinical practice was assessed before and after a 3-week experiential learning rotation. Client and veterinary doctor ratings on students' performance were also assessed. Students' self-confidence in all but one of the clinical communication statements improved significantly (p < .05). Veterinary doctor and clients' ratings were overall positive. The results from this study supports the use of experiential learning to promote an integrated learning approach in veterinary education

Bates J.E., Almekdash H., Gilchrest-Dunnam M.J. (2017) The Flipped Classroom: A Brief, Brief History. In: Santos Green L., Banas J., Perkins R. (eds) *The Flipped College Classroom*. Educational Communications and Technology: Issues and Innovations. Springer, Cham *
>   This chapter uses a chronological perspective to examine the pedagogical practice of "flipping" a class, reminding all that this practice existed many years before it was named. The chapter also discusses the variations one sees of flipped class models. It concludes by addressing some common concerns instructors have with respect to the flipped classroom.

BATI, A. H., YILMAZ, N. D. & YAĞDI, D. (2017). Learning styles and learning approaches: How closely are they associated with each other and do they change during medical education? *Marmara Medical Journal* 2017; 30: 82-91 DOI: 10.5472/marumj.344818 *
>   Objectives: This study aims to determine medical students' learning styles and approaches and to evaluate the relationship between them, as well as observe whether any changes occur in these during the course of their education. Methods and Materials: This research was carried out on students who were enrolled in 2008-2009 and was conducted in their first, second and fourth years. The study group consisted of students who had fully completed the scales of measurement used for this research in all years. Learning styles and approaches were determined for each period. Results: An increase in the convergent and divergent styles and a decrease in the assimilator style, determined over the years were not statistically significant. The decline in the deep learning approach scores was important. Evaluating the relationship between the learning styles and approaches, we found that the deep learning approach scores with the divergent style were lower in the first two years; however, no relationship was observed in the fourth year. Conclusions: The learning style follow-up study indicates a trend among students who will try to understand the whole by giving importance to details, to focus on problem solving, and to move away from traditional learning. The decrease in deep learning approaches may be linked to the nature of assignments and testing systems.

Beane, M. (2018). Shadow Learning: Building Robotic Surgical Skill When Approved Means Fail. *Administrative Science Quarterly 1–37*
>   I explore here how trainees in a community of practice learn new techniques and technologies when approved practices for learning are insufficient. I do so through two studies: a two-year, five-sited, comparative ethnographic study of

learning in robotic and traditional surgical practice, and a blinded interviewbased study of surgical learning practices at 13 top-tier teaching hospitals around the U.S. I found that learning surgery through increasing participation using approved methods worked well in traditional (open) surgery, as current literature would predict. But the radically different practice of robotic surgery greatly limited trainees' role in the work, making approved methods ineffective. Learning surgery in this context required what I call ''shadow learning'': an interconnected set of norm- and policy-challenging practices enacted extensively, opportunistically, and in relative isolation that allowed only a minority of robotic surgical trainees to come to competence. Successful trainees engaged extensively in three practices: ''premature specialization'' in robotic surgical technique at the expense of generalist training; ''abstract rehearsal'' before and during their surgical rotations when concrete, empirically faithful rehearsal was prized; and ''undersupervised struggle,'' in which they performed robotic surgical work close to the edge of their capacity with little expert supervision—when norms and policy dictated such supervision. Shadow learning practices were neither punished nor forbidden, and they contributed to significant and troubling outcomes for the cadre of initiate surgeons and the profession, including hyperspecialization and a decreasing supply of experts relative to demand.

Bhati,A. (2018). New Methods for Collaborative Experiential Learning to Provide Personalised Formative Assessment. *International Journal of Emerging Technologies in Learning (iJET) ***

Supporting diverse and rapidly changing learning styles of new digital age generations is one of the major hurdles to higher education in the age of massification of education markets. Higher education institutions must now utilize unprecedented network speed and mobile technology to create stimulating learning environments for new digital age generations. This paper presents a new learning and teaching model that combines dynamic learning space (DLS) and mobile collaborative experimental learning (MCEL) for supporting diverse learning styles of students. DLS assists students with state-of-art modern wireless network technologies in order to support fast-paced, multi-tasking, data and content intensive collaborative learning in class. The model further extends student learning activities beyond classroom by allowing students to continue their learning anywhere and anytime conveniently using their mobile devices. MCEL provides automated continuous personalized formative-feedback 24/7. The main objectives of the model are to improve student engagement and to provide ownership of their learning journey, experiential learning, contextualized learning, and formative assessment at low cost. The model employs three factors that influence collaborative experiential learning and formative assessment. The three factors are: (1) the use of learning space within the classroom, (2) wireless learning technology, and (3) mobile learning system (m-Learning). Pilot studies of the model are conducted and evaluated on two groups of postgraduate students. Their participation is observed, and a survey is conducted. The results show that (1) DLS encourages high-level learning and diverse learning styles to move away from passive low-level knowledge intensive learning activities; (2) MCEL supports Bigg's constructive alignment in curriculum design, contextualized experimental learning, and personalized formative learning.

Blanc, V. (2019). The experience of embodied presence for the hybrid dance/movement therapy student: A qualitative pilot study. *The Internet and Higher Education* 38: 47–54 *

> Opportunities for online and distance learning have increased dramatically over the past decade (LaGasse & Hickle, 2015). Educators are left with the responsibility of integrating their area of study into the realm of technology while retaining the core competencies of their field. For Dance/Movement Therapy (DMT) educators, the task has become to bridge somatic and technological experiences. DMT is a clinical psychotherapy field that views the body's nonverbal language as a direct form of communication (Sandel, Chaiklin, & Lohn, 1993). Dance/movement therapists work with a wide variety of people such as children, families, adults with mental illness, people struggling with addiction, and older adults with dementia or Parkinson's disease utilizing body awareness and movement practices to engage emotional processing. Therefore, educators must bring the body on to the screen and into the minds of the DMT student. As DMT programs begin to design and implement online courses, many questions emerge, the most salient of which is how the embodied learning process can be brought into the online environment.

BOURGEOIS-BOUGRINE, S., LATORRE, S. & MOUREY, F. (2018). PROMOTING CREATIVE IMAGINATION OF NON-EXPRESSED NEEDS: EXPLORING A COMBINED APPROACH TO ENHANCE DESIGN THINKING. *Creativity studies* ISSN 2345-0479 / eISSN 2345-0487 2018 Volume 11 Issue 2: 377–394 https://doi.org/10.3846/cs.2018.7184. *

> Creativity is vital to radical innovation for the generation of new and disruptive ideas. Managers, practitioners and teachers are increasingly integrating design thinking approach to stimulate creativity and innovation. Design thinking implies empathy as an innovation mind-set to understand the latent needs of users observed in real settings. However, it has been suggested that radical innovations do not come from a user-centred approach such as design thinking and that design thinking is often based on anecdotes than data and that its value is difficult to prove. The aims of this paper is to propose an approach to enhance design thinking in educational setting in order to promote radical innovation mindset. Drawing on the benefits of prospective ergonomics, digital mock-up and virtual environment to promote ideation and empathy, the proposed approach takes as a starting point the imagination of future needs using prospective scenarios approach, instead of users' latent and unmet needs, for the development of artefacts and services that would change social practices. The paper a) discusses why and how this combined approach would foster students' radical innovations skills by not just satisfying actual users' needs but by imagining and anticipating new needs and b) propose a method to evaluate the effectiveness and the efficacy of design thinking enhancement.

Bozkurt, A. (2017). Augmented Reality with Mobile and Ubiquitous Learning: Immersive, Enriched, Situated, and Seamless Learning Experiences. DOI: 10.4018/978-1-5225-1692-7.ch002 *

> Augmented Reality is generally used with mobile and ubiquitous technologies and they become widespread and are being used in education increasingly. Mobile and wearable

devices as hard technologies, augmented and virtual reality as soft technologies has improved in a fast pace that we cannot predict what will the future introduce to us tomorrow. These hard and soft technologies provide immersive, enriched, situated and seamless learning experiences through mobile and ubiquitous learning. Considering the technology centric learning models, this chapter examines the mobile learning and augmented reality in terms of the opportunities they offer for learning. Following that, this study explains ubiquitous learning as a future learning model and use of augmented reality within this perspective.

Browne, K. & Anand, C. K. (2018). An Empirical Evaluation of Reading Comprehension Tablet Software Utilizing the Question Generation Strategy *Journal of Literacy and Technology* Volume 19, Number 2: Winter 2018 ISSN: 1535-0975 *

> Motivated by the substantial socioeconomic issues associated with low literacy skills, we developed a tablet application to help adults improve their reading comprehension skills. Though reading comprehension is a complex and multifaceted skill, studies have shown that teaching students metacognitive strategies can help them improve their reading comprehension skills. We created an iPad application which attempts to teach users the question generation strategy. We built another iPad application as a control that only allowed users to practice their reading comprehension skills; this application did not attempt to teach a metacognitive skill. We tested the applications with 48 undergraduate and graduate student participants from McMaster University. The application which aimed to teach the question generation strategy resulted in a statistically significant improvement in reading comprehension performance relative to the control application. We conclude that tablet software can be used to teach the question generation strategy, and propose directions for future work.

Burger, P. H. M. & Scholz, M. (2018) Gender as an underestimated factor in mental health of medical students. *Annals of Anatomy* 218 1–6 *

> Background: In Germany, currently two out of three medical students are female. Several studies corroborate that medical students show a significantly higher prevalence of stress-related mental disorders than the population in general. Aims: We aimed to evaluate, if gender has an influence on the distribution of mental stress parameters and learning style among male and female medical students. Methods: We investigated a total of 758 students of the medical faculty at the University of Erlangen-Nuernberg, Germany, using standardized and validated psychological questionnaires on depressive symptoms (BDI-II), burnout (BOSS-II) and quality of life (SF-12). In addition, we screened the students for their learning styles according to Kolb. Results: Out of 723 participants who declared their gender, 57.8% were female and 37.6% were male. Female students showed significantly higher values for depressiveness as well as for emotional and cognitive burnout, whereas the mental quality of life was significantly lower. A considerably higher percentage of male students with a converging or an accommodating learning style were found in comparison to their female fellows.
> Conclusions: We postulate that an adaptation of the medical curriculum content to the investigated factors may contribute to a higher mental stability and less stress-related symptoms in medical students

C

Cacciamani S. (2017), Experiential Learning and Knowledge Building in Higher Education: an Application of the Progressive Design Method, *Journal of e-Learning and Knowledge Society, v.13, n.1, 27-38. ISSN: 1826-6223, e-ISSN:1971-8829* 28 *

> Progressive Design Method (PDM) attempts to connect the Experiential Learning perspective with Knowledge Building model. The aim of the present study was to analyse the implementation of PDM in terms of patterns of online participation and interaction, and the relationship between online participation and interaction with participation in F2F meetings. The implementation was introduced in a Guided Practical Experience at the University of Valle d'Aosta, involving 17 students in their 2nd year of a Psychological Sciences and Techniques degree course. Following PDM, the students worked in teams to create a project about the use of digital technology in school or other formative contexts. An online environment, Knowledge Forum (KF), supported the activity with specific areas (views) where students could present themselves, analyse the KB model and share their project. The project was developed in different steps and after each step each team received a feedback from all the members of the community. The results for participation show a positive correlation between notes written and read in each view, as well as a correlation between notes read between different views. We also found a correlation between Weighted Indregree and Outdegree in each view. Finally, F2F participation correlated with the total number of notes written and read and with the total number of Weighted Indegree and Weighted Outdegree. Implications of these results for PDM implementations are discussed.

Callary, B., Maher, P., Root, E. & Ryan, J. (2018). Exposition of Process-Based Learning for First Year University Students. *Collect Essays on Learning and Teaching*, Vol. 11 *

> In this expository essay, four faculty members co-reflect on the pedagogy used within one firstyear course at a small Canadian university. We discuss the responsibility of facilitating five process-based pedagogical approaches. These complex and interrelated processes include: i) self -directed learning, ii) reflexive intra-personal learning, iii) group/inter-personal development, iv) experiential learning, and v) community-based and/or service learning. We describe and give examples of how these approaches help students learn how to learn, function, and grow respectfully with one another and with community.

Carter, B. et. al. (2017). Developing a Sense of Knowing and Acquiring the Skills to Manage Pain in Children with Profound Cognitive Impairments: Mothers' Perspectives. *Pain Research & Management* (4, article 11) · April DOI: 10.1155/2017/2514920 *

> Children with profound cognitive impairment (PCI) are a heterogenous group who often experience frequent and persistent pain. Those people closest to the child are key to assessing their pain. This mixed method study aimed to explore how parents acquire knowledge and skills in assessing and managing their child's pain. Eight mothers completed a weekly pain diary and were interviewed at weeks 1 and 8. Qualitative data were analysed using thematic analysis and the quantitative data using descriptive statistics. Mothers talked of learning through a system of trial and error ("learning to get on with it"); this was accomplished through "learning to know without a rulebook or guide"; "learning to be a convincing advocate"; and "learning to endure and to get things right." Experiential and reflective learning was evident in the way the mothers developed

a "sense of knowing" their child's pain. They drew on embodied knowledge of how their child usually expressed and responded to pain to help make pain-related decisions. Health professionals need to support mothers/parents to develop their knowledge and skills and to gain confidence in pain assessment and they should recognise and act on the mothers' concerns.

Chitongo S. (2019). Use of technology in simulation training in midwifery *British Journal of Midwifery*, Vol 27, No 2 85-89*

> Simulation and skills training support the development of midwifery
> competencies. Midwives will already be familiar with torsos,
> dolls and pelvises to simulate abdominal palpations, neonatal
> resuscitation and mechanisms of labour. The use of high-fidelity
> simulation through technologically advanced manikins in skills
> training for the midwifery students has also been developed, and it
> is hoped that this will increase students' performance in effectively
> managing maternal resuscitation and other obstetric emergencies
> after simulation in clinical labs. Simulation has great benefits, such
> as increasing the interaction between educators and students and
> using experiential learning, or learning through doing and reflecting.
> Skill performance, critical thinking, and self-confidence can all be
> assessed and evaluated during the simulation experience.

Cid, F. M., Ferro, E. F., Muñoz, H. D. & Contreras, L. V. (2018). Learning Styles in Physical Education. http://dx.doi.org/10.5772/intechopen.72503 *

> The learning styles are cognitive, affective, and physiological traits concerning how
> students perceive and process information, which is why their knowledge is relevant to
> enhance the methodologies of classes by teachers and learning strategies by students.
> Although there are several models that define and evaluate learning styles, a few of them
> have been used in physical education, highlighting the theories of Alonso, Gallego and
> Honey, the Kolb model, Herrmann's theory of brain dominance and Model VAK. The
> few studies carried out in this sample show a preference for reflexive, divergent,
> dominated B (organized) and D (holistic) styles and for a kinesthetic style. Further
> studies are required on how students perceive and process information in various areas of
> education, with the aim of contributing with one more tool to improving the teaching-
> learning process.

Annette Clancy, A. & Vince, R. (2019). "If I Want to Feel My Feelings, I'll See a Bloody Shrink": Learning From the Shadow Side of Experiential Learning. Journal of Management Education 2019, Vol. 43(2) 174–184 https://doi.org/10.1177/1052562918817931 *

> This article discusses the value of learning from a psychodynamic approach
> to experiential learning. This approach is used to help students experience
> and understand the emotional and relational complexity of leading and
> managing within organizations. From this perspective, experiential learning
> means engaging with emotions and with embedded relations of power,
> to unsettle expectations of how organizations work. Here, we consider
> the professor's role, which is to help students work with and through

the emotional dynamics generated in work relationships, even when those dynamics are difficult to bear and the overriding impulse is to avoid or defend against them. In this way, students are being supported to better understand how organizations are emotional places, not how individuals within organizations can "manage" emotion

Clapp-Smith, R.,Hammond, M. M., Lester, G. V. & Palanski, M. (2018). Promoting Identity Development in Leadership Education: A Multi-domain Approach to Developing the Whole Leader. https://doi.org/10.1177/1052562918813190 *Journal of Management Education* 1-25 *
>Empirical research suggests that focusing on one's identity as a leader may enhance ongoing leadership development. As a complement to traditional theory- and skills-based approaches to leader development, we offer an identity-based, multi-domain approach to leadership development through a series of integrated in-class exercises. Specifically, these exercises focus on developing four components of leader identity: meaning, strength, levels (personal, relational, and collective), and integration of domain-specific sub-identities, culminating in the creation of a leader identity narrative. After a brief review of the literature on leader identity, we describe the exercises in detail along with potential prompts for personal reflection and group discussion. We also present qualitative evidence of the intended outcomes of the exercises, including the desired effect of developing students' leader identities.

C. Scott Collins, Sanjeev Nanda, Brian A. Palmer, Arya B. Mohabbat, Cathy D. Schleck, Jayawant N. Mandrekar, Saswati Mahapatra, Thomas J. Beckman & Christopher M. Wittich (2018): A cross-sectional study of learning styles among continuing medical education participants, *Medical Teacher*, DOI: 10.1080/0142159X.2018.1464134 *
>Purpose: Experiential learning has been suggested as a framework for planning continuing medical education (CME). We aimed to (1) determine participants' learning styles at traditional CME courses and (2) explore associations between learning styles and participant characteristics. Materials and methods: Cross-sectional study of all participants (n¼393) at two Mayo Clinic CME courses who completed the Kolb Learning Style Inventory and provided demographic data. Results: A total of 393 participants returned 241 surveys (response rate, 61.3%). Among the 143 participants (36.4%) who supplied complete demographic and Kolb data, Kolb learning styles included diverging (45; 31.5%), assimilating (56; 39.2%), converging (8; 5.6%), and accommodating (34; 23.8%). Associations existed between learning style and gender (p¼0.02). For most men, learning styles were diverging (23 of 63; 36.5%) and assimilating (30 of 63; 47.6%); for most women, diverging (22 of 80; 27.5%), assimilating (26 of 80; 32.5%), and accommodating (26 of 80; 32.5%). Conclusions: Internal medicine and psychiatry CME participants had diverse learning styles. Female participants had more variation in their learning styles than men. Teaching techniques must vary to appeal to all learners. The experiential learning theory sequentially moves a learner from Why? to What? to How? to If? to accommodate learning styles.

Karen De Coninck,Martin Valcke, Ine Ophalvens, Ruben Vanderlinde (2019). Bridging the theory-practice gap in teacher education: The design and construction of simulation-based learning environments. *

> Clinical simulations have recently been presented as a promising instructional strategy to overcome the theory-practice gap in teacher education. Taking this into account, this chapter aims to enhance insight into the core ideas underlying the design and construction of simulation-based learning environments. For this purpose, this chapter first presents a general design framework. Next, the construction process and two prototypes of simulation-based learning environments in the context of parent-teacher communication — an online and a face-to-face prototype — are described. A pilot implementation of the prototypes reflects a positive student appreciation with a slightly higher appreciation for the face-to-face prototype. The chapter concludes by discussing implications for future teacher education programs and research.

Corscadden,K. & Kevany, K. (2017). The TREEhouse: A hybrid model for experiential learning in environmental education. *Applied Environmental Education and Communication An International Journal* · February 2017
DOI: 10.1080/1533015X.2017.1282334

> This article addresses the need to integrate experiential learning into environmental and sustainability curriculum and considers the challenges faced by academic institutions in providing relevant experiential learning opportunities at an appropriate scale. Through an experiential case study, this article illustrates how adopting a "hybrid approach" served to expand traditional perception and infrastructure at Dalhousie University, Faculty of Agriculture, while affording graduate students a space for developing knowledge through the experience of doing. This article discusses the barriers and presents the methodology used to achieve a paradigm shift. This overcomes traditional approaches and could be duplicated for infrastructure transformation into active laboratories for the provision of experiential learning tools for environmental education programs

Cortez, A. R. et. al. (2018). Not all operative experiences are created equal:
a 19-year analysis of a single center's case logs *Journal of Surgical Research* · April 2018
DOI: 10.1016/j.jss.2018.03.070 *

> Background: Although national operative volumes have remained stable, surgical educators should appreciate the changing experience of today's surgical residents. We set out to evaluate operative volume trends at our institution and study the impact of resident learning styles on operative experience. Materials and methods: The Accreditation Council for Graduate Medical Education operative log data from 1999 to 2017 for a single general surgery residency program were examined. All residents completed the Kolb Learning Style Inventory. Statistical analyses were performed using linear regression analysis, Student's t-test, and Fischer's exact test. Results: Over the study period, 106 general surgery residents graduated from our program. There were 87% action learners and 13% observation learners. Although there was no change in total major, total chief, or total non-chief cases, a decrease in teaching assistant cases was observed. Subcategory analysis revealed that there was an increase in operative volume on graduation in the following categories: skin, soft tissue, and breast; alimentary

tract; abdomen; pancreas; operative trauma; pediatric; basic laparoscopy; complex laparoscopy; and endoscopy with a concurrent decrease in liver, vascular, and endocrine. Learning style analysis found that action learners completed significantly more cases than observation learners in most domains in which operative volume increased. Conclusions: While the operative volume at our center remained stable over the study period, the experience of general surgery residents has become narrowed toward a less subspecialized, general surgery experience. These shifts may disproportionally impact trainees as observation learners operate less than action learners. Residency programs should therefore incorporate methods such as learning style assessment to identify residents at risk of a suboptimal experience.

Joshua Cuevas and Bryan L. Dawson. (2017). A test of two alternative cognitive processing models: Learning styles and dual coding. *Theory and Research in Education* 1 –21 DOI: 10.1177/1477878517731450 *

> This study tested two cognitive models, learning styles and dual coding, which make contradictory predictions about how learners process and retain visual and auditory information. Learning styles-based instructional practices are common in educational environments despite a questionable research base, while the use of dual coding is less ubiquitous, and thus measured examination of the two methods has implications for practical application. The study involved 204 university students who were surveyed on their preferred learning style and then presented with information that they were prompted to process via either imagery or linguistic means. The results showed there was no significant interaction effect between learning style and condition, suggesting the most basic prediction of the learning styles hypothesis should be rejected. In a regression analysis, none of the four learning styles (visual, auditory, read/write, or kinesthetic) predicted students' retention of the material. However, there was a highly significant main effect of condition with those in the visual condition retaining twice as much information as those in the auditory condition regardless of learning style, a result that strongly supports dual coding theory. Implications of the findings would suggest that learning styles instruction is an ineffective method for teachers to employ, and that, instead, incorporating principles of dual coding would have a much greater benefit to student learning.

Horace Crogman, H., Peters, R. & Crogman, M. T. (2018). Probing Students Misconceptions results from Concept Inventory and Their Understanding in Science Learning. *European J of Physics Education* Volume 9 Issue 1 1309-7202 *

> Concept inventory (CI) tests are typically used to measure students' general knowledge before and after instruction. We find issue with the current format of these tests, which some researchers claim, measure students' misconceptions, since the answers choices given to students do not consider their prior knowledge. We particularly analyze Force Concept Inventory (FCI) tests results to reflect on what CI tests are measuring in general. Also, students' choices on FCIs are more associated with their natural experiences than their knowledge of the Newtonian signals. Thus, we propose some modifications to the FCI format and show how this change helps to parse out what of students' answers are simple misunderstanding or true misconceptions to focus on building instruction. Results

show that: 1/ Concepts are very disorganized in students' minds, 2/ despite some improvement at post-test, students' choices from pre-test to post-test do not stay consistent, 3/ modifying the test helped come up with clearer explanations about students' choices. We found that very little work has been done to assess and rethink FCIs in the past few decades. Our new proposed design opens doors to fairer and more organic testing/assessment practices in college STEM.

Joshua Cuevas and Bryan L. Dawson (2018). A test of two alternative cognitive processing models: Learning styles and dual coding. *Theory and Research in Education.* Vol. 16(1) 40–64 https://doi.org/10.1177/1477878517731450 *

> This study tested two cognitive models, learning styles and dual coding, which make contradictor predictions about how learners process and retain visual and auditory information. Learning styles-based instructional practices are common in educational environments despite a questionable research base, while the use of dual coding is less ubiquitous, and thus measured examination of the two methods has implications for practical application. The study involved 204 university students who were surveyed on their preferred learning style and then presented with information that they were prompted to process via either imagery or linguistic means. The results showed there was no significant interaction effect between learning style and condition, suggesting the most basic prediction of the learning styles hypothesis should be rejected. In a regression analysis, none of the four learning styles (visual, auditory, read/write, or kinesthetic) predicted students' retention of the material. However, there was a highly significant main effect of condition with those in the visual condition retaining twice as much information as those in the auditory condition regardless of learning style, a result that strongly supports dual coding theory. Implications of the findings would suggest that learning styles instruction is an ineffective method for teachers to employ, and that, instead, incorporating principles of dual coding would have a much greater benefit to student learning.

D

Dane, E. (2017). Where is my mind? Theorizing mind wandering and its performance-related consequences in organizations. *Academy of Management Review**

> Although it is widely recognized that the human mind is prone to wander, some lines of research suggest that this tendency is costly and unfortunate while others suggest that mind wandering is beneficial and adaptive. Accounting for these divergent perspectives and developing theory on mind wandering, I explore the nature and performance-related consequences of mind wandering in organizations. To this end, I argue that whether mind wandering contributes to or compromises task performance over time in work settings depends on its content - that is, the specific types of thoughts workers tend to generate as their minds wander. In making this case, I theorize relationships between various types of mind wandering content and task performance over time, specify mechanisms accounting for these relationships, and consider job-related boundary conditions. Together, the arguments presented here advance and reorient research on mind wandering and open new windows into cognition in organizations

Da Silva, A. B., Santosana, A. T. D. & Bispo, C. K. D. A. (2017). THE COMICS AS TEACHING STRATEGY IN LEARNING OF STUDENTS IN AN UNDERGRADUATE MANAGEMENT PROGRAM. *RAM, REV. ADM. MACKENZIE (Mackenzie Management Review)*, 18(1) • SÃO PAULO, SP • JAN./FEB. 2017 ISSN 1678-6971 (electronic version) • http://dx.doi.org/10.1590/1678-69712017/administracao.v18n1p40-65.*

    Purpose: This article aims to evaluate the use of comics as an active teaching strategy in learning of students in a management undergraduate program.

    Originality/gap/relevance/implications: The proposal presented in this article brings a theoretical-practical contribution to education in management, since it describes the steps for the use of a strategy involving use of comics as a teaching tool by the professor in the classroom, and also promotes the researcher's reflections on innovative teaching strategies for education in management in Brazil.

    Key methodological aspects: The study is qualitative and the research method adopted followed the assumptions and steps of the action research of Cousin (2009): recognition, planning, action, observation and reflection. Cousin's description was adapted to the context of teaching.

    Summary of key results: The results obtained indicate that using presentation of comics as a teaching strategy can enhance competence development, assist in the development of innovation and flexibility, and also contribute to reducing the gap between theory and practice. In addition, it can help students develop a critical sense, help to establish relationships between events and managerial situations, and encourage the exchange of experiences, assisting in decision-making and allowing students to represent a professional situation based on theoretical precepts. Finally, it contributes to the development of reflective practice in the learning environment and, in particular, promotes the development of creativity, something that was observed throughout the implementation of the strategy.

    Key considerations/conclusions: It is expected that the study will contribute to the dissemination of the strategy in other programs and institutions and encourage teachers to use comics in the learning processes of their students

de Haan, E. (2019) *Critical Moments in Executive Coaching: Understanding the Coaching Process Through Research and Evidence-based Theory* - books.google.com

    Critical Moments in Executive Coaching examines the change process supported by workplace and executive coaching, making use of empirical evidence from the study of a range of real coaching conversations and coaching relationships. It is both a complete …

Dholakiya, N. D., Ferjencik, M., Schofield, D. & Kubíkc, J. (2018) Virtual Learning for Safety, Why not a Smartphone? American Institute of Chemical Engineers *Process Safety Progress* · October 2018 DOI 10.1002/prs.12005 *

    This article aims to examine the effectiveness of a Virtual Learning Environment (VLE) using Kolb's Experiential Learning Theory (ELT) for chemical laboratory safety. A VLE model

of a distillation column rig situated at the chemical engineering
department, at the University of Nottingham (UK) was
designed for the purpose of safety and hazard awareness
training for first year laboratory students. The basic pedagogical
ideas behind the model were to compare the effectiveness
of passive learning used in traditional safety training with the
way a VLE can deliver an active learning platform. Based on
the collected experience, this article investigates issues that
arose while correlating a VLE model with Kolb's ELT. Some of
the drawbacks of the VLE model have been taken into consideration
while designing a mobile game application for the
purpose of laboratory safety training at the Research Laboratory.
of Energetic Materials at Pardubice University (Czech
Republic). This is believed to offer more scope to develop constructivist
learning using a smartphone

Giovanni Di Stefano, Giuseppe Ruvolo & Valentina Lo Mauro (2019):Developing professional
identity through group experiential learning: A Group-Analytic experiential training approach for
use with postgraduate clinical psychology students*, Psychodynamic Practic*e:
https://doi.org/10.1080/14753634.2019.1603809 *
> This article describes a Group-Analytic, experiential and non-directive training
> approach taken with postgraduate clinical psychology students in training.
> Based onmedian/large group settings, it is aimed at promoting the development
> of psychology students' professional identities. It uses a particular form of
> experiential learning beyond the rational and cognitive aspects of traditional
> didactic teaching in order to stimulate students' own involvement in the
> integration of their thoughts, feelings and attitudes. From a Group-Analytic
> perspective, the group is conceived of as an organic entity. The convenor takes
> up a less intrusive and non-directive role in comparison to a traditional seminar
> leader. The learning outcomes that may be obtained with this group model are
> outlined in a description of group process below, and through the content
> analysis of verbalizations of students who participated in the twelve-session
> experiential group. The results confirm the usefulness of the Group-Analytic
> experiential training approach, highlighting the construction of professional
> self-awareness, achieved through students exploring their own relationship
> modalities in an intersubjective learning space.

Díaz Agea, J.L., *Nurse Education in Practice* (2018), https://doi.org/10.1016/j.nepr.2018.05.001
> The acquisition of ethical competence is necessary in nursing. The aims of the study were
> to analyse students' perceptions of the process of learning ethics through simulations and
> to describe the underlying frames that inform the decision making process of nursing
> students. A qualitative study based on the analysis of simulated experiences and
> debriefings of six simulated scenarios with ethical content in three different groups of
> fourth year nursing students (n=30), was performed. The simulated situations were
> designed to contain ethical dilemmas. The students' perspective regarding their learning
> and acquisition of ethical competence through simulations was positive. A total of 15

mental models were identified that underlie the ethical decision making of the students. The student's opinions reinforce the use of simulations as a tool for learning ethics. Thus, the putting into practice the knowledge regarding the frames that guide ethical actions is a suitable pedagogical strategy.

Dixon, H. & Hawe, E. (2018). Chapter 4. Developing Assessment-Capable Teachers Through Engagement in Assessment for Learning (AfL): A New Zealand. In H. Jiang and M. F. Hill (eds.), *Teacher Learning with Classroom Assessment,* https://doi.org/10.1007/978-981-10-9053-0_4 *

Utilizing data generated from an interpretive, qualitative research project, this chapter outlines an approach to teacher professional learning about assessment for learning (AfL) that was by nature experiential and collaborative. We provide an illustration of the ways in which teachers were required to actively engage in a number of AfL strategies to enhance their personal learning, supported by an academic staff member who personified an AfL teacher. In doing so, we demonstrate how the act of becoming an AfL learner, taught by someone who exemplified a skilled, competent, and confident AfL teacher, activated teachers' examination of their beliefs about the roles and responsibilities of teachers and learners in learning and assessment and the apparent validity of these beliefs. Moreover, we show how teachers' personal and vicarious experiences helped build self-efficacy in relation to teachers' ability to implement AfL within their own classrooms as they recognized its importance to student learning. Overall, we argue that teachers' lived experiences contributed to their assessment literacy and their assessment capability.

Dorodchi, M. et. al.(2018). Design and Implementation of an Activity-Based Introductory Computer Science Course (CS1) with Periodic Reflections Validated by Learning Analytics. 978-1-5386-1174-6/18/$31.00 ©2018 IEEE *

This research to practice full paper provides preliminary evidence that integrating reflections is a significant feature to identify at-risk students early in a semester as verified and validated by a sequence-based learning analytics model. We've devised an active learning classroom model which incorporates reflection at multiple points in students' learning experience. This active learning model adopts Kolb's Learning model to provide a coherent and connected set of activities before, during, and after the class. Unlike periodic assessment through testing, reflections can provide nearly-real-time information about student's experiences in class. We extract sentiment feature vectors to capture students' affect from written reflections. These features typically aren't assessed on tests or during in-class activities. These features were extracted automatically using LIWC (Linguistic Inquiry and Word Count) is a tool for applied natural language processing) which is less cumbersome to implement than manually reading the written reflections. We find that using these sentiment feature vectors extracted from the reflections in our learning model increased accuracy while

decreasing time-to-detect at-risk students significantly.

Douma, I. et. al. (2018). Maker Education Theory and Practice in the Netherlands. White paper for Platform Maker Education Netherlands. *

    Maker education is a new educational movement that sees potential in the process of 'making' at
school. Maker education hopes to achieve the development of 'maker-skills' such as developing creativity, imagination, engineering and problem solving trough making in school (Meij, 2014; WaagSociety, Petitie: maken moet weer terug in het onderwijs, 2014). The Dutch Platform Maker Education is a platform where Maker educators, people interested in Maker education and Makers themselves meet. The community shares ideas, and curriculum examples trough the digital platform as well as events organised by themselves (MakerEducation, 2016). Platform Maker Education has a strong belief that Maker education can help school children to gain 21st century skills (future oriented skills) and become more self-directed and confident citizens, prepared for our fast and rapid changing society.

    The goal of this report is:

    * to connect existing international research about Maker education to Dutch maker education in
practice,

    * to gain insight in how the creative make and learn processes of Maker education in the Netherlands
are set-up

    * to find out how the interest of students in technology is stimulated and what the role of using new
technologies is.

Dzvonyar, D. et. al. (2018). Team Composition in Software Engineering Project Courses. Association for Computing Machinery. ACM ISBN 978-1-4503-5750-0/18/05. https://doi.org/10.1145/3194779.3194782 *

    Composing well-balanced, effective development teams for software
engineering project courses is important for facilitating learning,
fostering student motivation as well as obtaining a successful
project outcome. However, team composition is a challenging task
for instructors because they have to consider a variety of possibly
conflicting criteria such as practical constraints, skill distribution,
or project motivation.

    In this paper, we describe our process for composing development
teams based on a pre-defined set of criteria that we have
established from our experience conducting project courses since
2008 and constantly refined since. We reflect on these criteria by
analyzing the team synergy and project satisfaction of participating
students as well as their perspective on challenges in their teams
in one concrete instance of a multi-project capstone course. Our
findings show that lack of motivation, problems with interpersonal
relationships and communication issues affect the less satisfied

teams more than the others

E

Eckhaus, E. & Sheaffer, Z. (2018). Happiness Enrichment and Sustainable Happiness. *Applied Research Quality Life* https://doi.org/10.1007/s11482-018-9641-0 *

Sustainable happiness research has recently received renewed attention. Studies present exercises intended to enhance happiness. A comprehensive process by which to sustain happiness has not thus far been studied comprehensively. Drawing on the Goal-Setting and Experimental Learning theories, we endeavour to form a Happiness Enrichment Perspective (HSP). A cyclic Happiness Sustainability Model of four stages is presented aimed at advancing a future research framework. Predicated on data gleaned from 458 respondents, we applied SEM aimed at validating HSP. Findings corroborate the proposed Happiness Sustainability Cycle (HSC). Implications and suggestions for future studies on happiness sustainability are proposed in order to further validate the proposed model.

El-Bishouty, M. M. et.al. (2018). Use of Felder and Silverman learning style model for online course design. *Education Tech Research Dev.* https://doi.org/10.1007/s11423-018-9634-6 *

Learning Management Systems are used in millions of higher education courses, across various countries and disciplines. Teachers build courses reflecting their individual teaching methods, which may not always fit students' different learning styles. However, limited information is known about how well these courses support the learners. The study aims to explore the use of Felder and Silverman learning style for online course design. The study has used linear transfer function system models to develop fundamentals of feedback by a course analyzer tool. This interactive tool allows teachers to determine a course's support level for specific learning styles, based on the Felder and Silverman learning style model. The Felder and Silverman learning style model in this study is used to visualize the fit between course and learning style to help teachers improve their course's support for diverse learning styles. The results of a pilot study successfully validated the course analyzer tool, as it has potential to improve the design of the course in future and allow more insight into overall student performance. The findings suggest that a course designed with certain learning styles in mind can improve learning of the students with those specific learning styles.

Elliott-Engel, Jeremy and Westfall-Rudd, Donna (2018). "Faculty Teaching Improvement: Opportunities Within a Graduate Student & Faculty Community of Practice," *Adult Education Research Conference*. http://newprairiepress.org/aerc/2018/papers/2 *

Abstract: Improving higher----education teaching is a growing focus on American colleges. A program was developed to train current PhD students in effective pedagogy practices. The Community of Practice resulted in current teaching faculty pedagogical improvement.

Emani, A.et.al. (2019). The interplay between empathy, learning, and opportunity in the process of entrepreneurial value co-creation. *European J. International Management* *

This study investigates value co-creation in entrepreneurship: it

focuses practically on the process through which the entrepreneur's new value proposition meets the customer's problem and pain. It argues that successful entrepreneurs tend to be more empathic than unsuccessful entrepreneurs. Entrepreneurs who offer their new values through an empathic relationship tend to learn vital market knowledge that shapes a shared mental model between themselves and the consumer that increases the likelihood of value co-creation. The performance of this relationship improves when there is a match between the entrepreneurs' learning approach and her initial perception of the opportunity pursued. Matching between learning skills and empathy also enhances the empathy capacity of the entrepreneur. Both matching mechanisms are important for value co-creation.

Ewing, D. R. & Ewing, R. L. (2017). Leveraging Experiential Learning to Encourage Role Transition From "Student" to "Professional": Insights From Identity Theory. *Journal of Marketing Education* Vol. 39(3) 132 –DOI: 10.1177/0273475317724844 *

Drawing on identity theory, this conceptual inquiry posits a need to redefine the standard that individuals use to judge themselves as a "business student." Learners will be more likely to succeed in a corporate context if they experience daily interactions throughout a curriculum that approximate a professional environment. These social interactions will reinforce a revised business student identity if carefully orchestrated. A conceptual argument is presented to this end that builds toward a curricular-level solution emphasizing experiential learning that has broad focus beyond marketing students to all business students. A number of obstacles and opportunities are identified while developing a set of propositions linking curriculum design with granular day-to-day interactions. Experiential learning is presented as a path forward but must be implemented in an exhaustive and theoretically sound manner in order to facilitate student transition from an academic to a corporate environment.

F

Fifolt, M. &McCormick, L. C. (2019). Advancing Public Health Education Through Place-Based Learning: "On the Road in the Deep South" *Pedagogy in Health Promotion: The Scholarship of Teaching and Learning* 1–11 *

Documented health disparities among racial and ethnic minorities exist in the United States, and health injustices frequently have deep historical ties, especially in the South. Therefore, it is critically important for students to understand root causes of both historical and contemporary public health issues and their effects on population health. In spring 2018, 15 undergraduate and graduate students from the University of Alabama at Birmingham participated in a six-credit hour travel course by touring throughout the Deep South to learn more about the ways in which history and place interact with programs, policies, and practices to influence population health. Students saw firsthand how the social determinants of health frequently affected access to health care and discovered the value of a multidisciplinary approach to public health and health programs in addressing health equity. The purpose of this article is to describe student experiences with the travel course through an exploration of students' reflective journal entries, blog

posts, and student presentations. Additionally, the authors report results of a self-assessment designed to measure student interest and level of comfort in working with, or on behalf of, medically underserved populations. The article concludes with implications for public health and best practices for offering place-based courses across academic majors.

Findyartini, A. and Sudarsono, N. C. (2018). Remediating lapses in professionalism among undergraduate pre-clinical medical students in an Asian Institution: a multimodal approach. *BMC Medical Education* (2018) 18:88 https://doi.org/10.1186/s12909-018-1206-2 *

Background: Fostering personal identity formation and professional development among undergraduate medical students is challenging. Based on situated learning, experiential learning and role-modelling frameworks, a six-week course was developed to remediate lapses in professionalism among undergraduate medical students. This study aims to explore the students' perceptions of their personal identity formation and professional development following completion of the course. Methods: This qualitative study, adopting a phenomenological design, uses the participants' reflective diaries as primary data sources. In the pilot course, field work, role-model shadowing and discussions with resource personnel were conducted. A total of 14 students were asked to provide written self-reflections. Consistent, multi-source feedback was provided throughout the course. A thematic analysis was conducted to identify the key processes of personal and professional development among the students during remediation. Results: Three main themes were revealed. First, students highlighted the strength of small group activities in helping them 'internalise the essential concepts'. Second, the role-model shadowing supported their understanding of 'what kind of medical doctors they would become'. Third, the field work allowed them to identify 'what the "noble values" are and how to implement them in daily practice'. Conclusion: By implementing multimodal activities, the course has high potential in supporting personal identity formation and professional development among undergraduate pre-clinical medical students, as well as remediating their lapses in professionalism. However, there are challenges in implementing the model among a larger student population and in documenting the long-term impact of the course.

Christine Ann Frith C. A. (2018). *Exploring physiotherapy clinician-educator beliefs about their teaching role and their preferences for their development as educators.* ORCID ID: https://orcid.org/0000-0002-1907-1752 Master of Philosophy-Medicine, Faculty Medicine, Dentistry and Health Sciences, The University of Melbourne. *

There is strong professional demand for physiotherapy clinical educators (CEs) to facilitate positive student learning experiences for physiotherapy students and ensure high professional standards of physiotherapy. It is well known that the quality of clinical teaching is determined by the educational rather than the clinical expertise of CEs. Within the public healthcare context, inhouse professional development (PD) programs of teaching, are the primary means of developing CEs' teaching expertise. However, for PD to effectively motivate changes to teaching practice, it must do more than introduce teaching tips and strategies. It needs to resonate with CEs' beliefs about their teaching practice. The aims of this research were to explore physiotherapy Clinician-Educator (CE) beliefs about their teaching role and effective teaching practice and to use this

understanding to inform inhouse PD programs to develop teaching skills.

Grounded in a constructivist and interpretivist approach and using mixed methods forty physiotherapy CEs at St Vincent's Hospital, Melbourne, (SVHM) completed the Conceptions and Learning Teaching (COLT) questionnaire. The COLT is a reliable and validated tool that was used to explore CE teaching beliefs. Subsequently, CE beliefs of teaching were further explored in two focus groups, comprised of eighteen CEs. The focus groups were allocated according to teaching experience; early career CEs with less than five years of teaching experience and experienced CEs with five or more years of teaching experience.

Thematic analysis of focus group transcripts revealed CE teaching beliefs varied significantly between CEs and generally reflected the development of their identities as educators, relative to their identities as clinicians. Three levels of educator identity emerged; weak, intermediate and strong. Each level exposed differences in CE interest, motivation and engagement with learning about teaching.

The translation of this research to PD programming at SVHM included the development of a multi-tiered framework for PD. This introduced a range of learning activities that accommodated for different CE learning needs and levels of identity as educator.

The implications of this research when combined with the broader education literature, are that developing an improved understanding of CE beliefs about teaching within PD

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has the potential to improve PD program design in the preparation and implementation phases. There appear to be benefits for CEs in re-aligning PD content to better match CE learning needs, motivation levels and learning preferences. In addition, acknowledging differences in levels of identity as an educator, discussing CE concerns and supporting them to negotiate contextual barriers to implementing new teaching strategies may improve translation of learning to practice. Future research may focus on specific PD techniques to facilitate changes in identity level as an educator. This research contributes to the understanding of CE identity and teaching beliefs in the development of further teaching expertise.

Frank, P.& Stanzus, L. S. (2019). Transforming Consumer Behavior: Introducing Self-Inquiry-Based and Self-Experience-Based Learning for Building Personal Competencies for Sustainable Consumption. *Sustainability* 11, 2550; doi:10.3390/su11092550 www.mdpi *

Despite growing educational efforts in various areas of society and albeit expanding knowledge on the background and consequences of consumption, little has changed about individual consumer behavior and its detrimental impact. Against this backdrop, some scholars called for a stronger focus on personal competencies, especially affective–motivational ones to foster more sustainable consumption. Such competencies, however, are rarely addressed within the context of education for sustainable consumption. Responding to this gap, we suggest two new learning formats that allow students to systematically acquire a ective–motivational competencies: self-inquiry-based learning (SIBL) and self-experience-based learning (SEBL). We developed these approaches at Leuphana University Lüneburg, Germany, since 2016, and applied them within the framework of two seminars called Personal Approaches to Sustainable Consumption. Conducting scholarship of teaching and learning, we investigated the potential of SIBL and SEBL for cultivating personal competencies for sustainable

development in general and sustainable consumption in particular. Our results indicate that SIBL and SEBL are promising approaches for this purpose.

G

Gaupp, R., Götz F. & Körner, M. (2018). Self-regulated learning and critical reflection in an e-learning on patient safety for third-year medical students. *International Journal of Medical Education*. 9:189-194 ISSN: 2042-6372 DOI: 10.5116/ijme.5b39.d5a8 *

Objectives: To explore the influence of critical thinking, self-regulated learning and system usability on the acceptance of e-learning on patient safety.
Methods: A cross-sectional study was conducted, using a 32-question online survey. One hundred ninety-three (n=193 medical students participated in the study and were asked to rate levels of reflective thinking, self-regulated learning and attitudes towards patient safety using scales from the Ques-tionnaire for Reflective Thinking, the Attitudes to Patient Safety Questionnaire and the System Usability Scale. Differ-ences between reflection levels were calculated using paired t-tests, associations between critical thinking and self-regu-lated learning were calculated using linear correlations. We performed linear multiple regression analysis to identify pre-dictors for student acceptance of the e-learning.
Results: Students (n=193) engaged in intermediate levels of reflection (5-point Likert, M=3.62, SD=0.73) and significantly (t(143)=15.15, p<0.001, d=1.57) lower levels (M=2.35, SD=0.87) of critical reflection. Most students showed high ($\geq$ 4; 44.1%) or intermediate (<4 level > 2; 29.4 %) levels of self-regulated learning. A regression model indi-cated that 5 predictors (Reflection, critical reflection, self-regulated learning, relevance, usability) explained 65.3% of the variance (R²=0.653, F(5, 96)=39.02, p<0.01) of perceived to-tal quality.
Conclusions: This study shows that reflection and learning skills are important factors for e-learning acceptance, but perceived relevance and system usability play a more im-portant role. From a didactic perspective, it is indispensable to provide the students with sufficient examples and links to professional practice to enhance the perception of relevance and to improve system usability permanently.

West III G. P. and Robert M. Gemmell (2018). Learning Behaviors Across Levels in New Ventures and Innovation Outcomes. *Journal of Small Business Management* 00(00), pp. 1–25 https://doi.org/10.1111/jsbm.12484 *

This study examines how learning behaviors in new ventures lead to innovation. Mediation analysis of the relationships between individual co-founders' learning behaviors, firm-level exploration/exploitation learning activities, and innovation suggests a complex view about how firm-level knowledge emerges. The results show that individual learning behaviors of entrepreneurs impact firm-level exploratory and exploitative learning activities, and indirectly affect firm innovation. Co-founder trust strongly predicts entrepreneurial learning activities and firm-level learning activities. Unexpectedly, co-founder experience heterogeneity reflecting prior knowledge has mixed effects on learning behaviors and innovation activities. The research draws on

technology entrepreneurs who started their firms with trusted co-founders

Gemmell R.M., (2017) "Learning styles of entrepreneurs in knowledge-intensive industries", *International Journal of Entrepreneurial Behavior & Research*, Vol. 23 Issue: 3, pp.446-464, https://doi.org/10.1108/IJEBR-12-2015-0307 *

Purpose – The purpose of this paper is to explore whether there is a prevalent entrepreneurial learning style trait associated with successful knowledge industry entrepreneurial practice.

Methodology - The article reviews prior entrepreneurship studies utilizing experiential learning theory and examines the learning style preferences of 168 knowledge-industry entrepreneurs to deduce a hypothesized entrepreneurial learning style. The entrepreneur participants' Kolb Learning Style Inventory (LSI) scores are modeled to explore causal links to individual and firm level entrepreneurial success.

Findings - Preference for the Kolb Active Experimentation learning mode over Reflective Observation, predicts adoption of a key entrepreneurial innovation behavior and significant entrepreneurial performance benefits. In contrast to published theories, the Reflective Observation learning mode exhibits surprising negative effects on entrepreneurial performance. Data analysis also reveals that 90% of sampled co-founder/partners had at least one partner with the hypothesized entrepreneurial style.

Implications - The study fills a major research gap in entrepreneurial learning literature by identifying learning style traits associated with entrepreneurial success. The study findings can also be used by educators, practitioners and investors to help identify, appraise and develop entrepreneurial talent.

Originality/Value - The study provides novel insights into the learning styles of practicing technology entrepreneurs by establishing a significant preference within this community for the Active Experimentation and Concrete Experience learning modes. The study illustrates the negative effects of the Reflective Observation learning mode which has previously linked to successful entrepreneurial practice.

Geisler, M., Larstem. G. & Ochendorf, F et al. (2017). Conditions for excellence in teaching in medical education: The Frankfurt Model to ensure quality in teaching and Learning. *GMS Journal for Medical Education*, Vol. 34(4), ISSN 2366-5017

Background: There is general consensus that the organizational and administrative aspects of academic study programs exert an important influence on teaching and learning. Despite this, no comprehensive framework currently exists to describe the conditions that affect the

quality of teaching and learning in medical education. The aim of this paper is to systematically and comprehensively identify these factors to offer academic administrators and decision makers interested in, improving teaching a theory-based and, to an extent, empirically founded

framework on the basis of which improvements in teaching quality can be identified and implemented.

Method: Primarily, the issue was addressed by combining a theory driven deductive approach with an experience based, "best evidence" one during the course of two workshops held by the GMA Committee Freiburg, Germany on Personnel and Organizational Development in Academic Teaching (POiL) in Munich (2013) and

Frankfurt (2014). Two models describing the conditions relevant to teaching and learning (Euler/Hahn and Medizinische Fakultät, Rindermann) were critically appraised and synthesized into a new third Dekanat, KiMed Zentrum für model. Practical examples of teaching strategies that promote or hinder, learning were compiled and added to the categories of this model and, to the extent possible, supported with empirical evidence. Based on this, a checklist with recommendations for optimizing general academic conditions was formulated.

Results: The Frankfurt Model of conditions to ensure Quality in Teaching and Learning covers six categories: organizational structure/medical school culture, regulatory frameworks, curricular requirements, time Frankfurt/M., Germany constraints, material and personnel resources, and qualification of teaching staff. These categories have been supplemented by the interests, motives and abilities of the actual teachers and students in this particular setting. The categories of this model provide the structure for a checklist in which recommendations for optimizing teaching are given.

Conclusions: The checklist derived from the Frankfurt Model for ensuring quality in teaching and learning can be used for quality assurance and to improve the conditions under which teaching and learning take place in medical schools.

Gerken, M. et al. (2018). INFORMAL LEARNING AT WORK AS A FACILITATOR OF EMPLOYEES' INNOVATIVE WORK BEHAVIOUR book chapter *

Literature suggests that in order to stimulate employees to engage in innovative work behaviour, they need to learn at work (Amabile 1998; Carmeli & Spreitzer 2009). Employees who develop new competences and capabilities through work are more likely to see the possibilities for new ways of doing and trying things. Professional development is not only a result of participating in formal training programs. A review by Tynjälä (2008) indicates that people learn at work not only through formal education but by doing the job itself, through informal learning. Informal learning at work includes different informal learning behaviours such as interaction with colleagues, reflection, reading professional literature and collaboration (Froehlich et al. 2014; Haider & Kreps 2004; Lohman 2006) that take place during daily work (Marsick et al. 1999; Tannenbaum et al. 2010). Informal learning is defined as learning that occurs as a by-product of other activities and at the employee's own initiative (Eraut 2004; Marsick et al. 1999; Watkins & Marsick 1992). A distinction is made between individual informal learning and informal learning in social interaction (e.g. Kyndt & Baert 2013; Mulder 2013). In this respect, Noe et al. (2013) refers to learning from oneself and learning from non-interpersonal sources as individual informal learning, and learning from others as informal learning in social interaction. Learning from oneself refers to reflection and experimenting with new ways of thinking and acting. Learning from non-interpersonal sources implies learning from information in written material, or via the Internet. Learning from others involves interaction with peers, supervisors and relevant others in the learner's network by information, help, or feedback seeking behaviours. Although many authors refer to these different types of informal learning and the related informal learning behaviours, previous research measured informal learning in a rather

holistic way, including a range of behaviours, and did not clearly make a distinction between specific informal learning behaviours (e.g. Kwakman 2003; Lohman 2006). For example, a clear distinction between cognitive informal learning, learning from oneself (e.g. reflection) and learning from others (e.g. feedback exchange with colleagues)
was not always made.

Gil, A. J.& Mataveli, M.(2017) "Learning processes and job satisfaction in the Spanish wine sector: The moderating effect of organizational size and employees' educational level", *Personnel Review*, Vol. 46 Issue: 3, pp.624-643, doi: 10.1108/PR-01-2015-0013 *

> Purpose – The purpose of this paper is to analyse the relationship between learning processes (LP) – group learning (GL) and training processes – and job satisfaction (JS), by taking into consideration the mediating role of organizational size (OZ) and employees' educational level (EEL). Design/methodology/approach – Data were collected from the Spanish wine sector. The survey was addressed to the workers, and 230 valid questionnaires were obtained. The authors have proven their model of research through a model of structural equations, that is, by means of the partial least squares technique. Findings – This paper proposes that LP play a significant role in determining the effects on JS, and OZ and EEL mediate the relationship between GL and JS. Research limitations/implications – Owing to certain features of the sample and the use of measurement scales, the final results should be considered with caution. Further research in other contexts using qualitative methods is needed to validate these findings. Practical implications – When seeking to improve employee JS, practitioners should take into account the link between LP and JS. It is especially necessary to consider the diversity in learning groups. Originality/value – This paper provides an empirical analysis of the relationship between LP and JS and checks the mediation of OZ and worker education of workers between group learning and JS.

Goff, E. E. et. al. (2018). Applications of Augmented Reality in Informal Science Learning Sites: a Review. *Journal of Science Education and Technology* https://doi.org/10.1007/s10956-018-9734-4 *

> The importance of increasing interest in the STEM disciplines has been noted in a number of recent national reports. While many previous studies have focused on such efforts inside of the formal classroom, comparatively few have looked closely at informal learning environments. We investigate the innovative use of technology in informal learning by reviewing research on the incorporation of augmented reality (AR) at exhibit-based informal science education (ISE) settings in the literature. We report on the common STEM-focused topics that are covered by current AR applications for ISE learning, as well as the different devices used to support these applications. Additionally, we report on the prevalence of positive learning outcomes and engagement factors commonly associated with the use AR applications in informal environments. This review aims to foster continued development and implementation of AR technology in exhibit-based ISE settings by informing the community of recent findings and promoting additional rigorous research for the future.

Goralnik, L., Thorp, L. G. & Rickborn, A. J. (2018). Food System Field Experience: STEM Identity and Change Agency for Undergraduate Sustainability Learners. *Journal of Experiential Education**

> Background: Experiential STEM (Science, Technology, Engineering, Mathematics) learning increases STEM identity, belongingness in STEM communities (Bell et al., 2009). Experiential food systems education impacts change agency, intention to effect change (Lieblein et al., 2008). But little work explores experiential STEM learning in field-based contexts. Purpose: Our project describes curricular and co-curricular experiential learning implemented programmatically, a novel context; these field-based interventions impact STEM identity and change agency, both largely unstudied experiential education outcomes. Methodology/Approach: Introductory sustainability studies students complete 1 hour/week on fieldbased teams (e.g. raising bees, growing produce). Many extend participation as a co-curricular activity. We gave 2015 introductory students (N = 62) a pre-post survey to explore STEM identity and change agency. We also collected 2016 co-curricular Pig Team learning reflections (N = 10). Findings/Conclusions: Survey: A paired t-test was run on numeric responses using R (v. 3.4.2). Significant (p < 0.0055) gains were found for all questions. Reflections: We conducted an emergent qualitative content analysis, identifying four STEM identity- and change agencyrelated categories. Implications: A programmatic commitment to experiential learning through paired curricular and co-curricular activities can have meaningful impacts on STEM identity and change agency, facilitating student ability to act purposefully on behalf of sustainability

Grady, D. J. (2017). *A Critical Review of the Application of Kolb's Experiential Learning Theory Applied Through the use of Computer Based Simulations Within Virtual Environments 2000-2016*. MS thesis, University at Albany, State University of New York School of Education Department of Educational Theory and Practice. *

> This integrative research review aims to examine the application of Kolb's theory of experiential learning through the use of simulations within virtual learning environments. It will first cover the framework of experiential learning as stated by Kolb, a learning theory that is finding new life within the context of simulations, role-playing games (RPGs), massive multiplayer online role playing games (MMORPGs) and virtual environments. This analysis was conducted by making use of combined research strategies that focused specifically on both qualitative and quantitative reviews that utilized Kolb's experiential learning theory (ELT) within the context of the application of computer based simulations in virtual environments used to facilitate learning. The review was guided by three principle questions: From the year 2000 to 2016, which research studies that examine the use of simulations to facilitate learning, use experiential learning theory as its foundational theoretical approach? Of the works that were selected, which studies were computer based simulations in virtual environments and demonstrated firm connections between Kolb's ELT and the results of the study? And lastly, within the final group of studies identified, what patterns emerge through the application of Kolb's ELT within the context of computer based simulations in virtual environments?

Gross, Z. & Rutland, S.D. (2017). Experiential learning in informal educational settings *Int Rev Educ* 63: 1. https://doi.org/10.1007/s11159-017-9625-6 *

>This special issue of the International Review of Education – Journal of Lifelong Learning explores ways in which we can conceptualise, study and document experiential learning in education in diverse national contexts, across varying ages, from school to university pre-service students, within multilingual and multi-religious educational settings. Taking a global perspective, this compilation includes articles from four different continents: Europe, Asia, Australia, and North America. Its main focus is on how experiential learning interacts and functions in the contexts of both formal and informal educational settings, and on the implications which follow from our particular conceptions of experiential learning for the fields of both formal and informal education.

Günes, G., Bati, K. & Katranci, M. (2017). An Examination of the Epistemological Views and Learning Styles of Pre-Service Teachers. *International Journal of Progressive Education,* Volume 13 Number 3, 2017 *

>Epistemology is the branch of philosophy that investigates human knowledge, in particular its source, nature, limitations, system, and accuracy. The most critical issues in epistemology are considered to be belief in the nature of knowledge and belief in the nature of knowing. Since epistemology involves the structuring processes of knowledge, it assumed to be associated with individual differences, which are influential in determining an individual's ability to organize their thoughts and behaviors as well as personal choices. In addition, the most typical reflections of individual differences are observed in learning styles. Therefore, in this research, we aimed to examine the relationship between the epistemological views and learning styles of pre-service teachers. The study was based on a quantitative design and the epistemological views of the pre-service teachers were determined using the Scientific Epistemological Beliefs Scale developed by Elder (2002) and adapted to Turkish by Acat, Tüken and Karadağ (2010). In addition, the index of learning styles developed by Felder and Soloman (1996) and adapted to Turkish by Samanci and Keskin (2007) was used to identify the participants' learning styles. A total of 698 pre-service teachers from two state universities in Turkey constituted the sample of the research. According to the overall results, the pre-service teachers adopted philosophical skepticism and were inclined towards an active/sensing/visual/sequential learning style. Furthermore, a statistically significant relationship was found between the participants' learning styles and their epistemological views.

Gunter, J., Berardinelli, P., Blakeney, B.,Cronenwett, L. & Gurvis, J. (2017). Working with horses to develop shared leadership skills for nursing executives. Organizational Dynamics 46, 57—63*

>Horses have much to teach us about leading in complex, uncertain environments that result in agile, adaptive organizations. Horses have been creating healthy, sustainable communities for millions of years. They have learned to masterfully navigate uncertainty on a constant moment by-moment basis. In a herd of horses, leadership is shared. When the time comes for the herd to move, the leaders move into positions that reflect their role and work collectively to ensure safe
>passage to their new destination.

H

Ismail El Haddioui 1*, Mohamed Khaldi 2 (2017). Study of learner behavior and learning styles on the adaptive Learning Management System Manhali: Results and analysis according to gender and academic performance.   Journal of Software April 2017 doi: 10.17706/jsw.12.4.212-226 * KLSI

> This paper presents the detailed results of the study that we performed on our adaptive Learning Management System Manhali. This study was addressed to first year university students in Computer Engineering. The experiment was in the form of an online course intended to analyze and evaluate learner behavior on the e-learning platform and to identify their learning styles according to two learning styles theories: Kolb's theory and Felder's theory. The main objective was to study two important relationships in e-learning systems: The relationship between the behavior of a learner and their academic performance, and the relationship between the gender of the learner and their learning style.

Hariyanto, D. & Köhler, T. (2017). An Adaptive User Interface for an E-learning System by Accommodating Learning Style and Initial Knowledge *Advances in Social Science, Education and Humanities Research*, volume 102 *

> There is a conception among researchers that every
> student has his or her own learning style preferences. One
> student cannot be treated as same as the other students. A
> specific strategy is required to provide a learning environment
> that is suitable for different students' preferences. In the context
> of technology-enhanced learning, it is urgently necessary to
> design an adaptive e-learning system based on multiple learning
> criteria. This paper presents the design of a user interface for an
> e-learning system that can adapt to multiple learning styles and
> initial knowledge levels. To evaluate the design concept, an
> application has been developed and then tested based upon a
> functional test approach. As a result, it was found that the elearning
> system could react as intended, presenting the learning
> material and navigation components based on both the learning
> styles and initial knowledge of the students.

Hasibuan, M.S., Nugroho, L.E., & Santosa, P.I. (2019). Model detecting learning styles with artificial neural network. Journal of Technology and Science Education, 9(1), 85-95. https://doi.org/10.3926/jotse.540 *

> Currently the detection of learning styles from the external aspect has not produced optimal results. This research tries to solve the problem by using an internal approach. The internal approach is one that derives from the personality of the learner. One of the personality traits that each learner possesses is prior knowledge. This research starts with the prior knowledge generation process using the Latent Semantic Indexing (LSI) method. LSI is a technique using Singular Value Decomposition (SVD) to find

meaning in a sentence. LSI works to generate the prior knowledge of each learner. After the prior knowledge is raised, then one can predict learning style using the artificial neural network (ANN) method. The results of this study are more accurate than the results of detection conducted with an external approach.

Hasnine, M. N. et. al. (2019) Learning Analytics to Share and Reuse Authentic Learning Experiences in a Seamless Learning Environment. Companion Proceedings 9th International Conference on Learning Analytics & Knowledge (LAK19) *

Authentic learning experiences are considered to be a rich source for learning foreign vocabulary. Prevalent learning theories support the idea of learning from others' authentic experiences. This study aims at developing a learning analytics solution to deliver the right authentic learning contents created by one learner to others in a seamless learning environment. Therefore, a conceptual framework is proposed to close the loops in the missing components of the current learning analytics framework. Data is captured and recorded centrally via a context-aware ubiquitous learning system which is a key component of a learning analytics framework. k-Nearest Neighbor (kNN) based profiling is used to measure the similarity of learners' profiles. Authentic learning contents are shared and reused through re-logging function. This paper also discusses how two previously developed tools, namely learning log navigator and a three-layer architecture for mapping learners' knowledge-level, are adapted to enhance the performance of the conceptual framework.

Mary Hayden & Shona McIntosh (2018): International education:the transformative potential of experiential learning, *Oxford Review of Education*, DOI: 10.1080/03054985.2017.1402757 *

Academic outcomes of post-16 education can be understood in terms of their value for gaining access to university and, at a time when global educational mobility is growing, internationally recognised university entrance qualifications may be considered a form of personal capital. However, narrowly measured outcomes may not reflect the breadth of the school experience nor the extent to which this breadth contributes to the development of the young person. One curriculum which aims to prepare students in ways that extend beyond the academic is the International Baccalaureate Diploma Programme, which incorporates an experiential element at its core. Creativity, Activity, Service attaches a transformative purpose to education, where students' experiences in each of the three strands can support personal learning that is not confined to subject areas of an academic curriculum. This paper describes the evolution of CAS in the academically rigorous Diploma Programme and presents the findings from a review of literature which contribute towards developing an understanding of the transformative potential of this component.

Heiland, T. L. (2018). Kolb Learning Styles of dancers who do and don't use dance notation compared to other fields. *Journal Research in Dance Education.* *https://doi.org/10.1080/14647893.2019.1593345*

> This statistical study of 272 dancers, ages 18–96, using Kolb Learning Styles Inventory 4.0, identifies dominant learning cycles, learning styles, and learning style flexibility of the dance participants, and subgroups of notation users, and then compares these results to existing results from other disciplines. The research reveals the depth and breadth of learning cycles and styles among the dancers (notation users and non-notation users) and provides implications suggested by comparing to other disciplines. The results provide insight into the value of shifting approaches to teaching by using motif notation or structured dance notation, some of which closely match disciplines that are seemingly quite different from dance. Motif notation results hint that motif notation pushes students to be much more flexible in their learning styles. This distinction represents motif notation users' abilities to switch to a 'back up' learning style, when their dominant learning style seems not to fulfill every learning task. Structured notation users results point to ability to focus deeply into analysis. The results of this study point to two considerations for the dance classroom. Engaging in motif notation may be an ideal tool to stimulate flexibility for lifelong learning and structured notation encourages analytical skill building.

Heon, F. & Nelson, L. A. T. (2018). A Study of the Yin and Yang Model of Leadership for Collective Leadership Development. Unpublished ms. *

> The following article presents findings, gleaned from an embedded practitioner study, on the accessibility of a bidimensional and integrative leadership model called the Yin and Yang Leadership Model, and created to develop collective leadership in diverse settings. Inspired by the work of management and political theorist Mary Parker Follett (1868-1933) and complementary concepts of intentionality and appreciation, the Yin and Yang Leadership Model was applied in conjunction with two social methodologies, the Appreciative Assessment and the Wall of Intentions, in 14 different collective leadership development interventions named Group Leadership Seminars. Conducted between 2008 and 2015, the Group Leadership Seminars contained a total of 1,616 participants. Thirty-two interviews of participants, corporate sponsors, and one cofacilitator, from the 14 different interventions, were subsequently conducted in order to learn about the usefulness of the Yin and Yang Model as a way to develop collective leadership in diverse settings. The study's participating organizations' main objectives were consistent with the literature on collective leadership in that they aimed for an increase in group cohesion and a participative way to efficiently define common intentions, and actions that would effectively engage everyone involved. The 14 organizational interventions studied can be classified within the fields of education, public administration, healthcare, professional associations, cooperatives, and national business management teams. Data from the 32 interviews were, as a whole, subsequently subjected to thematic analysis, which yielded five general themes: (1) Discovering the power of appreciating in groups; (2) Developing collective understanding, shared values, and purpose; (3) Fostering collaboration; (4) Practical usefulness; and (5) Improvements. Quantitative evaluations were also collected from one intervention. The study's results strongly support the Yin

and Yang Model's appropriateness for collective leadership development in diverse settings; the use of intentionality and appreciation and their respective social methodologies of the Appreciative Assessment and Wall of Intentions to develop collective leadership; and the easy application and reapplication of the model and its social methodologies by individual participants, independently.

Heon, F. (2018). *The Yin and Yang of Leadership: A Theoretical and Practical Guide to Democratic Leading*, Published by Francois Heon.

Herring, R. & Swabey, L. (2018). Experiential Learning in Interpreter Education. DOI: 10.13140/RG.2.2.35250.71364 *
> This literature review has two purposes. First, it serves as the basis for development of an experiential learning graduation-to-certification program for American Sign Language (ASL) interpreters through both face-to-face and virtual environments. Second, it is intended as a reference on experiential learning for those working with interpreters at any stage of their training or professional development. In this context we present theoretical and practical information from the relevant literature in the hope that it will inform interpreter educators' approaches to helping learners develop the necessary skills and knowledge to become competent, autonomous professionals. To support educators and learners on this journey, this review takes as broad and inclusive an approach as possible, touching on many topics of interest in experiential learning and interpreter education, by: defining experiential learning, discussing the design of learning experiences, presenting examples of experiential learning in action, exploring field-based experiential learning, discussing assessment, and evaluating the educator's role in experiential learning. Our focus is on ASL–English interpreter education; however, much of this information is also applicable to the education of interpreters working between other languages.

I

Ilgen, S.,Sengers, F.& Wardekker, A.. (2019). City-To-City Learning for Urban Resilience: The Case of Water Squares in Rotterdam and Mexico City. Water 2019, 11, 983; doi:10.3390/w11050983 *
> Cities worldwide are building 'resilience' in the face of water-related challenges. International networks have emerged through which urban communities draw on each other's experiences and expertise in order to become resilient cities. Learning is a key principle in resilience-building, but thus far little empirical research is available on city-to-city learning and learning for urban resilience. This paper presents an analysis of how policy relevant knowledge on the notion of 'Water Squares' is exchanged between Rotterdam and Mexico City. We mobilize a framework composed of four distinct phases: exploration and marketing (phase 1), building pipelines (phase 2), translation and adoption (phase 3), and internalization and reflection (phase 4). Critical in first phase was introspective analysis of one's own systems, strengths and weaknesses, rather than an outward-looking search for knowledge or mentees. During the second phase, the cities reframed their own narratives to match those of their counterparts as a way to create a mutual understanding of each other's struggles and histories. This facilitated policy and

knowledge exchange as equal partners on a basis of trust. In the third phase, strong local leaders were recruited into the process, which was key to anchor knowledge in the community and to reduce the risks of losing institutional memory in centralized, hierarchical institutions. For the fourth phase it should be stressed that by internalizing such lessons, cities might strengthen not only their own resilience, but also enhance future exchanges with other cities.

K Illeris, K. (2018) *Contemporary theories of learning: learning theorists... in their own words* - books.google.com

> This tenth anniversary edition of Knud Illeris's classic 2008 text is an updated and definitive collection of today's most influential learning theorists, now containing additional chapters from John Hattie and Gregory Donoghue, Sharan Merriam, Gert Biesta and Carolyn …

Ingram, J. et.al. (2018). ENABLING LEARNING IN DEMONSTRATION FARMS: A LITERATURE REVIEW Int. J. Agr. Ext.-2018 13th European International Farming Systems Association (IFSA) Symposium, Greece.*International Journal of Agricultural Extension* ISSN: 2311-6110 (Online), 2311-8547 *

> Demonstration farms have a long tradition and have proved to be an effective means of supporting farmers in problem solving at the farm level. The new demands of complex and uncertain agricultural systems call for a renewed understanding of the approaches used and the concepts that underpin them, in particular those relating to farmer learning in the demonstration. A multi-faceted demonstration 'learning system' creates different contexts or conditions that enable learning. Of these contexts and conditions, structural and functional characteristics provide a good framework for analysis. This review paper aims to identify the key functional characteristics that enable learning in demonstrations. The paper provides a narrative review which presents, and builds on, the state of the art with respect to the main topic – enabling learning in demonstration farms. It draws on a wide body of literature, firstly with respect to theoretical insights into different forms of learning (single and double loop) and social learning processes, and secondly with respect to the factors that enable learning at programme level (e.g. strategies and approaches) and at farm and event level (e.g. mediation techniques). In doing this, it provides the building blocks for analysing the functional characteristics relevant to enabling learning in demonstrations. It concludes by drawing out the links between the demonstration objective, the functional characteristics and different forms and processes of learning. This work is taken from work in the EU H2020 project AgriDemo-F2F project and complements two other papers in this Special issue which examine the structural enabling environment and the cognitive processes of farm level peer-peer learning. An increased understanding of how learning through demonstration can be enabled in an increasingly complex context will help to develop institutions and programmes that aim to foster innovation in sustainable agriculture.

J

Johannessen, A. et.al. (2019). Transforming urban water governance through social

(triple-loop) learning. *Environmental Policy and Governance* 1–11.
wileyonlinelibrary.com/journal/eet *

The sustainable development of cities is threatened by a worldwide water crisis. Improved social learning is urgently needed to transform urban water governance and make it more integrated and adaptive. However, empirical studies remain few and fragmented. Therefore, the aim of this paper is to analyse how social learning has supported or inhibited sustainable transformations in urban water governance. On the basis of multiple case studies conducted in urban, flood-prone areas in Colombia, the Philippines, South Africa, India, and Sweden, we study learning processes related to different aspects of water management and governance. Our results show that transformations in water governance are often triggered by crises, whereas other potentials for transformation are not tapped into. Furthermore, learning is often inhibited by "lock-ins" created by powerful actors. We conclude that there is a need for more proactive design of governance structures for triple-loop learning that take into account the identified barriers and supporting principles.

K

Karahoca, A. et. al (2018). COGNITIVE DIALOG GAMES AS COGNITIVE ASSISTANTS: TRACKING AND ADAPTING KNOWLEDGE AND INTERACTIONS IN STUDENT'S DIALOGS. *International Journal of Cognitive Research in Science, Engineering and Education* Vol. 6, No. 1 *

This study introduces a system design in a form of cognitive dialog game (DiaCog) to support pedagogical factors and student learning model ideas. The purpose of the study is to describe how such a design achieves tracking and adapting students' knowledge and mastery learning levels as a cognitive assistant. Also, this study shows alternative ways for supporting intelligent personal learning, tutoring systems, and MOOCS. This paper explains method called DiaCog that uses structure for students' thinking in an online dialog. Also, it tracks student's level of learning/knowledge status. The methodology of computing is the semantic that match between student interactions in a dialog. By this way it informs DiaCog's learner model to inform the pedagogical model. Semantic fingerprint matching method of DiaCog allows making comparisons with expert knowledge to detect student mastery levels in learning. The paper concludes with the DiaCog tool and methodologies that used for intelligent cognitive assistant design to implement pedagogical and learner modeling to track and adapt students' learning. Finally, this paper discusses future improvements and planned experimental set up to advance the techniques introduced in DiaCog design.

Kelley, K. L. *The Role of Student Teaching in Balancing Student Teachers' Educator Role Profile.* Oklahoma State University, ProQuest Dissertations Publishing, 2017. 10276031
Over the past several years, agricultural education has faced a shortage of qualified teachers to fill the ever-growing vacancies throughout the United States. This lack of

qualified teachers has put the pressure on teacher preparation programs to take on the challenge of preparing student teachers to thrive in the experiential world of agricultural education. Previous studies have focused on teacher preparation but few studies have examined the effectiveness of teacher preparation programs, specifically the effectiveness of the student teaching experience, in preparing student teachers to be experiential educators. This non-experimental survey design study aimed determine the impact of the student teaching experience on student teachers' experiential educator skill development. Thirty-six student teachers from four representative universities in Oklahoma and Texas completed a modified summated needs assessment version of Kolb, Kolb, Passarelli and Sharma's (2014) Educator Role Profile three times: pre-, mid- and post- student teaching. The findings of this study revealed that student teachers were highly involved in high school agricultural education and the FFA but most did not grow up on a farm. It also found student teaching enhances all four roles in varying amounts and ways, narrows the gaps between importance and competence and between competence and authentic assessment, and grows perceived competence in all educator roles. Student teachers do not find being an expert important nor do they think they are good at it, are predominately coaches, and grew the most between the mid- and post-administrations in both importance and competence. Authentic Assessment revealed growth only in the facilitator role. Needs assessments in each administration indicated that student teachers have different skill needs at distinctive stages of their student teaching experience. Recommendations include providing opportunities to connect with the agricultural industry and agricultural content, reevaluating agricultural education course requirements, using the ERP as a part of the student teacher feedback process, educating student teachers are the importance of utilizing the stages of ELT and the ERP roles in their classrooms and providing cooperating teachers with training on the educator roles to improve evaluation

Keum, B. T., Hill, C. E., Kivlighan, D. M., Jr., & Lu, Y. (2018, July 23). Group- and Individual-Level Self-Stigma Reductions in Promoting Psychological Help-Seeking Attitudes Among college Students in Helping Skills Courses. *Journal of Counseling Psychology*. Advance online publication. http://dx.doi.org/10.1037/cou0000283 *

To promote psychological help-seeking, researchers have studied interventions to reduce self-stigma, a personally held belief that seeking psychological help would make one undesirable and socially unacceptable. We examined the differential impact of individual- and group-level changes in self-stigma on psychological help-seeking attitudes using data from 189 college students nested within 20 sections of a semester-long helping skills lab groups. We applied multi-level polynomial regression and response surface analysis to determine whether discrepancy between pre- and posttest self-stigma scores (i.e., reduction in self-stigma) predicted change in attitudes at the individual- and section-levels. Individual reduction in self-stigma did not predict psychological help-seeking attitudes but students who maintained consistently low to moderate levels of self-stigma throughout the course developed significantly more positive attitude toward psychological help-seeking. On the other hand, we found that greater section level reductions in self-stigma significantly predicted more positive psychological help-seeking attitudes, suggesting potential importance of group norm

changes and effects in modifications of individual attitudes. Implications for research and stigma reduction strategies are discussed.

Khalil, G. et. al. (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   doi:10.2196/jmir.7174 *

Background: Web-based programs for smoking prevention are being increasingly used with some success among adolescents. However, little is known about the mechanisms that link the experience of such programs to intended nicotine or tobacco control outcomes. Objective: Based on the experiential learning theory and extended elaboration likelihood model, this study aimed to evaluate the impact of a Web-based intervention, A Smoking Prevention Interactive Experience (ASPIRE), on adolescents' intention to smoke, while considering the experience of interactivity and entertainment as predictors of reduced intention to smoke, under a transitional user experience model. Methods: A total of 101 adolescents were recruited from after-school programs, provided consent, screened, and randomized in a single-blinded format to 1 of 2 conditions: the full ASPIRE program as the experimental condition (n=50) or an online , text-based version of ASPIRE as the control condition (n=51). Data were collected at baseline and immediate follow-up. Repeated-measures mixed-effects models and path analyses were conducted. Results: A total of 82 participants completed the study and were included in the analysis. Participants in the experimental condition were more likely to show a decrease in their intention to smoke than those in the control condition (beta=−0.18, P=.008). Perceived interactivity (beta=−0.27, P=.004) and entertainment (beta=−0.20, P=.04) were each associated with a decrease in intention to smoke independently. Results of path analyses indicated that perceived interactivity and perceived entertainment mediated the relationship between ASPIRE use and emotional involvement. Furthermore, perceived presence mediated the relationship between perceived interactivity and emotional involvement. There was a direct relationship between perceived entertainment and emotional involvement. Emotional involvement predicted a decrease in intention to smoke (beta=−0.16, P=.04). Conclusions: Adolescents' experience of interactivity and entertainment contributed to the expected outcome of lower intention to smoke. Also, emphasis needs to be placed on the emotional experience during Web-based interventions in order to maximize reductions in smoking intentions. Going beyond mere evaluation of the effectiveness of a Web-based smoking prevention program, this study contributes to the understanding of adolescents' psychological experience and its effect on their intention to smoke.

Kolb, A. Y. & Kolb, D. A. (2017). Experiential Learning Theory as a Guide for Experiential Educators in Higher Education. *ELTHE: A Journal for Engaged Educators*, 1(1): 7–44 *
Core concepts of Experiential Learning Theory—the learning cycle, learning style, and learning space—have been widely used by experiential educators in higher education for nearly half a century. We examine the latest thinking about these three concepts and highlight some exemplary applications from the many disciplinary applications of experiential learning in higher education.

Kolb, A. Y. & Kolb, D. A. (2017). *The Experiential Educator: Principles and Practices of Experiential Learning.* Kaunakakai, HI: EBLS Press

For teachers, college professors, coaches, consultants and organizational leaders a big part of the job is to help others learn. Those who have discovered Experiential Learning Theory and applied its principles in their work have experienced a transformational impact on the learners they serve and on their own professional development.

In The Experiential Educator Alice and David Kolb show how you can use these principles and practices to maximize learning. Their comprehensive handbook examines the philosophy of experiential learning as expressed in the works of foundational scholars from William James and John Dewey to Carl Rogers and Paulo Freire. They explore the basic concepts of experiential learning theory, describing the current state of the art of research and practice in

- the concepts of the learning cycle and learning style;
- experiential learning and the brain;
- how the spiral of learning leads to development;
- developing a positive learning identity;
- helping learners to develop skills in mindful deliberate learning;

Application of these principles to promote individual, team and organizational learning include
- creating hospitable spaces for learning that offer challenge and support;
- creating learning spaces to develop expertise and sustained lifelong learning; and
- key roles that educators need to teach around the learning cycle.

Kolb, A. Y. & Kolb, D. A. (2018). Eight important things to know about The Experiential Learning Cycle. *The Australian Educational Leader.* 40 Issue 3: 8-14 *

The experiential learning cycle is the most widely recognized and used concept in Experiential Learning Theory (ELT) (Kolb 2015; Kolb & Kolb 2017). The simplicity and usefulness of the four stage cycle of experiencing, reflecting, thinking and acting is the main reason for its popularity (see Figure 1). It is an adaptable template for the creation of educational programs that actively engage learners in the learning process, providing an alternative to the overused and ineffective traditional information transmission model. In a typical application, the educator provides a direct concrete experiencing event, such as a field trip, a lab experiment, or a role play, and then organizes personal or group reflections on the experience. The conceptualization phase focuses on understanding the meaning of the experience often with the addition of related subject matter lectures or reading. Learners are then asked to apply what they have learned in their own life and work context. There have been countless applications of the learning cycle concept in educational programs ranging from individual class sessions, to courses and training programs, degree programs, the total school and university curriculum, and even to national curricular

policies and standards in New Zealand (NZ Ministry of Education
2004) and Singapore (Singapore Ministry of Education 2015). In this article, we will
outline eight of these important insights from ELT along with corresponding tips for
educator practice:
1. Learning is an endlessly recurring cycle not a linear process.
2. Experiencing is necessary for learning.
3. The brain is built for experiential learning.
4. The dialectic poles of the cycle are what motivate learning.
5. Learning styles are different ways of going around the learning cycle.
6. Full cycle learning increases learning flexibility and development.
7. Teaching around the learning cycle.
8. The learning cycle can be a rubric for holistic, authentic assessment.

Kraft, M. & Nisell, M. (2018). Addressing a global nursing perspective in an undergraduate
nursing program: Student learning in clinical education. http://jnep.sciedupress.com *Journal of
Nursing Education and Practice* Vol. 8, No. 9 *

> Objective: Although many educational student activities addressing global awareness are
> highlighted in the literature, the global nursing approach and how it is applied by students
> in clinical education is not widely described. After the implementation of a new global
> nursing curriculum, nursing students educated at The Swedish Red Cross University
> College are now engaged in counteracting inequalities in health. This paper aims to
> describe how nursing students apply the global nursing perspective during their clinical
> education. Methods: The study is based on students' written individual reflective reports.
> The procedure for data analysis was inspired by a thematic and interpretive data
> synthesis. The four stages in Kolb's learning cycle was used as a framework. Results:
> Four themes were identified: 1) Experiencing frailty, suffering and vulnerability; 2)
> Advocating quality of life and priorities in health; 3) Conceptualizing autonomy,
> involvement and participation; 4) Making a difference and acting with respect and an
> open mind. Conclusions: Consequently, students at the The Swedish Red Cross
> University College are confident in applying global nursing perspective in care actions.
> Nursing educators have a mutual responsibility to facilitate students' knowledge transfers
> in global competencies and strategies to reduce the impact on the environment and on
> humans.

Krassmann, A. L. Filho, T. A. R., Tarouco, L. M. R. Bercht, M. (2017). Initial Perception of
Virtual World Users: A Study about Impacts of Learning Styles and Digital Experience. Online-
ISSN 2411-2933, Print-ISSN 2411-3123 *

> Virtual Worlds emerge as three-dimensional environments that have the potential to
> stimulate advances in the educational field by promoting interactivity, freedom and
> autonomy for students. However, its effective adoption in educational institutions is still
> considered very limited, and few studies have so far sought to identify more specific
> causes for such limitation. This research aims to contribute to the theme through a
> preliminary study about the impact of individual characteristics of learning styles and
> digital experience on users' initial perception about 3D Virtual Worlds. An experiment
> was conducted with a sample consisting of potential influencers in the decision making
> process for adoption of this type of approach, being composed by professionals from

educational area that experimented a 3D virtual laboratory for the first time. As a result, some insights about the mentioned characteristics' influence on user first impression are identified and some potential adjustments necessary to better fit different profiles are suggested, envisioning to disseminate the Virtual Worlds emerge as three-dimensional environments that have the potential to stimulate advances in the educational field by promoting interactivity, freedom and autonomy for students. However, its effective adoption in educational institutions is still considered very limited, and few studies have so far sought to identify more specific causes for such limitation. This research aims to contribute to the theme through a preliminary study about the impact of individual characteristics of learning styles and digital experience on users' initial perception about 3D Virtual Worlds. An experiment was conducted with a sample consisting of potential influencers in the decision making process for adoption of this type of approach, being composed by professionals from educational area that experimented a 3D virtual laboratory for the first time. As a result, some insights about the mentioned characteristics' influence on user first impression are identified and some potential adjustments necessary to better fit different profiles are suggested, envisioning to disseminate theuse of Virtual Worlds in Education. use of Virtual Worlds in Education.

L

Labib, A. E., Canos, J.H. & Penad, M. C. (2017). On the way to learning style models integration: a Learner's Characteristics Ontology. *Computers in Human Behavior* 73:433-445*
> On the way to increasing customization in e-learning systems, the learner model is the main source of variability. Such a model includes a number of psychological characteristics and study preferences that describe the learner's personality traits related to learning. During the last decades, the design methods and tools for e-learning have been designed assuming specific learner models. Therefore, in the search for a learning environment suitable for as many learner models as possible, we need tools to explore – and exploit- such models. In general, the learner's characteristics can be linked to the so-called learner's learning style (which is a part of the learner model) to provide the instructor with extensive knowledge about the learner's characterization in perceiving and processing information. Numerous learning styles have been proposed in the last decades, in some cases with overlapping characteristics with the same or different names. Thus, the heterogeneity of the learning style space makes it difficult to handle customization effectively. In this paper, we introduce a Learner's Characteristics Ontology based on creating interconnections between the different learning style model dimensions and learning styles with the relevant learner's characteristics, that: (1) helps instructors to improve and personalize the learning content; (2) can recommend learning materials to learners according to their learning characteristics and preferences; (3) can provide both instructors and learners with extensive knowledge about how they can improve their teaching and learning abilities; and (4) can improve communications and interaction between humans and computers by specifying the semantics of the learning style models' characteristics.

Hagar Ibrahim Labouta, Natasha A. Kenny, Rui Li, Max Anikovskiy, Leslie

Reid & David Thomas Cramb (2018): Learning science by doing science: an authentic science process-learning model in postsecondary education, *International Journal of Science Education*, DOI: 10.1080/09500693.2018.1484966 *

Research on understanding the full extent that an authentic science research experience engages students in how scientists think and act is sparse. 'Learning-science-by-doing-science' (LSDS) is an emerging self-guided process-learning model in postsecondary science education. It offers authentic science research opportunities that drive students to think and act like scientists. This study investigates the LSDS approach as a potential model for science learning at postsecondary level and aims to answer a main research inquiry – what are the students' and teaching staff's perceptions of students' learning gains and the quality of their learning experiences in an authentic research environment within the LSDS model? To answer this question, data were collected from the students, alumni, instructors, teaching assistants and the program director via questionnaires, focus groups and interviews. Students' and staff's lived experiences and their perceptions on their authentic research experiences within the LSDS model were used to articulate the key attributes and stages of the LSDS model. The outcomes of this study can be used to help other science programs implement similar authentic research process learning approaches in their own contexts.

Lampitt, Dianna, "A Comprehensive Study of the Learning Styles of Student Athletes and Academic Advisors at Three Institutions in the American Athletic Conferences and the Tools and Resources Used to Ensure Academic Success." (2017). Electronic Theses and Dissertations. 5383. http://stars.library.ucf.edu/etd/5383 *

Collegiate athletics plays an important role in higher education. As a result of this importance student athletes also play a significant role in higher education. However, due to their athletic responsibilities they face a number of challenges while enrolled in a college or university. An academic advisor for student athletes is responsible for not only helping thestudent athletes with their academics, they also play an important role in ensuring the eligibility of college student athletes so they are able to compete. As a result, academic advisors for student athletes use a number of tools and resources that help ensure the academic success of the student athletes. This study examined the use of these tools and resources from three institutions in the American Athletic Conference by 14 participants and how they related to the Graduation Success Rate of each institution. In addition, this study highlighted and examined the learning styles of not only the student athlete but also the academic advisor using Kolb's Learning Style Inventory (LSI). The study was quantitative in nature using survey research to answer five research questions. A Chi-Square analysis revealed there was significance between the number of tools and resources used and the Graduation Success Rate. A second Chi-Square revealed there was no significance between the student athletes learning style and the tools and resources used by academic advisors and learning specialists. The study also identified that of Kolb's four learning styles, the student athletes were mainly Accommodators and Divergers. The

results of this study suggest that academic advisors and learning specialists should use more tools and resources when working with student athletes to ensure a higher Graduation Success Rate. This study was one of the first to examine the tools and resources used by academic advisors and learning specialist, as well as, the learning styles of student athletes. Future research should continue to investigate the tools and resources used by academic advisors use and the role of the academic level of the student athlete.

Lim, H. & Park, E. H. (2017). KOREAN EFL STUDENTS' LEARNING STYLE PREFERENCES AND THEIR WRITING STRATEGY USE: REVISITING HONEY AND MUMFORD'S CLASSIFICATION. 2017 *Int. J. of Pedagogies & Learning*, 12(2), 161-173. *

The present study investigated whether the subgroups formed by students' information processing styles (e.g., learning style preferences) create differences in their second writing strategies. Two hundred ninety-five Korean college students learning English as a foreign language (EFL) (234 females, 61 males; mean age 22.24 years) completed the Learning Styles Questionnaire and the Writing Strategy Questionnaire. Results showed significant correlations between learning style preferences and writing strategy use. A two-step cluster analysis yielded three distinctive learning style groups (Balanced, Reflector/Theorist, and Activist). A multivariate analysis of covariance showed that the three groups significantly differed in their employment of writing strategies (i.e., planning, composing, and revising). Overall the results suggested that learning style preferences are a significant variable in explaining differential use of writing strategies. Pedagogical implications and suggestions for future research were discussed.

LeBaron, A. B. et.al. (2018). Practice Makes Perfect: Experiential Learning as a Method for Financial Socialization. *Journal of Family Issues* 1–29 DOI: 10.1177/0192513X18812917 journals.sagepub.com/home/jfi *

Most financial socialization research focuses on two methods of learning: modeling and discussion. The purpose of this study is to qualitatively explore experiential learning as a third potential method of financial socialization used by parents. Specifically, we explored what children learned about finances through experiential learning and why parents used experiential learning as a financial socialization method. We used a multigenerational sample of emerging adults (ages 18-30 years) and their parents and grandparents (N = 115). Analyses revealed three core what themes (Working Hard, Managing Money, and Spending Wisely) and three core why themes (Learning Financial Skills, Acquiring Financial Values, and Becoming Financially Independent) related to experiential learning. These findings have implications for parents, researchers, and educators. In sum, we propose that experiential learning should be regarded as a principal method of financial socialization and should be considered in theory building, research, and pedagogy.

Lock, J., Rainsbury, J., Clancy, T., Rosenau, P., & Ferreira, C. (2018). Influence of co-teaching on undergraduate student learning: A mixed-methods study in nursing. *Teaching & Learning Inquiry,* 6(1). http://dx.doi.org/10.20343/teachlearninqu.6.1.5 *

Co-teaching has been explored in the field of education but is a relatively new phenomenon in higher education. Its benefits and challenges are well documented;

however, what is lacking is substantive evidence highlighting the influence of co-teaching amongst undergraduate students. Particularly, in practice-based professions like teaching, nursing, and social work, active participation in collaborative teams is more the norm than the exception. Undergraduate students need to have opportunities to learn how to be collaborative, as well as observe modeling of collaborative teaching practice. In the article, we report on a two-year mixed-methods research study that investigated students' and instructors' experiences with co-teaching in a Nurse as Educator course. The findings from three cohorts engaged in the research suggest co-teaching to be an effective teaching and learning strategy. However, for co-teaching to be a positive experience for both students and instructors, purposeful scaffolding and supports need to be in place. Also outlined are recommendations for higher education with regard to designing and modeling co-teaching practice.

Thomas B. Long, Vincent Blok, Steven Dorrestijn & Phil Macnaghten (2019):
The design and testing of a tool for developing responsible innovation in start-up enterprises,
Journal of Responsible Innovation, DOI: 10.1080/23299460.2019.1608785 *

Innovation leads to new products, business models and even changes to socio-economic systems. However, it is important that innovation has the 'right impacts'. Responsible innovation can help to achieve this; however, it is unclear how to introduce responsible innovation to real-world, competitive, industry settings. We explore this challenge in the context of sustainability orientated start-up enterprises, developing innovations within agriculture, food or energy. We develop a tool that provides innovators with a systematic way to identify socio-ethical issues. Using the concept of experiential learning, we track the impact of the tool across 12 cases. For the tool to install responsible innovation, we propose that a full learning cycle must be completed. We find evidence that the tool can enable a full learning cycle and provide a method to identify socio-ethical factors. We contribute by articulating and operationalising an approach to introduce responsible innovation principles into real-world contexts.

Lowe, A. (2018). High Fidelity Simulation-Based Training in Radiography. *NEW INNOVATIONS IN TEACHING AND LEARNING IN HIGHER EDUCATION* *

This chapter contributes to the book New Innovations in Teaching and Learning in Higher Education as I introduce high-fidelity simulation-based training (SBT) of radiography students as a complementary teaching strategy to the pedagogical toolkit of educators. I define high-fidelity SBT in a health education context as the use of highly realistic, but artificial, representations of real-world clinical scenarios to achieve specific educational outcomes by means of experiential learning. The simulation experience (SimX) used to collect data for this chapter entailed a fully equipped casualty department in a hospital with high-fidelity patient simulators, a full staff complement, a family member, functional heart rate monitors, and appropriate additional sound effects. The combination of all these components provided an authentic clinical setting fit for experiential learning, which is the process whereby students learn and create new

knowledge by linking new experiences to existing knowledge and understanding through the deliberate practice of reflection (Kolb, 2015).

Lucchini RG, et al. (2018).Education and Training: Key Factors in Global Occupational and Environmental Health. *Annals of Global Health.* 84(3), pp. 436–441. DOI: https://doi.org/10.29024/aogh.2328 *

Introduction: Education and training in Occupational and Environmental Health (OEH) play an important role in building global capacity and contribute to safer working conditions. The shortage of occupational health professionals, the lack of knowledge and a high number of occupational accidents and diseases stress the demand for providing further education and training in OEH. This need is especially urgent in low and middle-income countries. Three international courses on OEH provide valuable insights on how to develop successful trainings in the field and how to contribute to the creation of healthy and safe workplaces.

Methodology and Results: The courses "Global Occupational and Environmental Determinants of Diseases: a multidisciplinary and multicultural approach for prevention" (University of Brescia, Italy), "Advanced International Training Course in OEH" (Chulabhorn Research Institute, Bangkok, Thailand) and "Teaching interventions crossing borders" (Ludwig-Maximillians-Universität, Munich, Germany) offer a unique networking opportunity for health professionals from low-, middle- and high-income countries. Three main characteristics of learning were identified as successful for adult learning in OEH: Interdisciplinary learning allows exchanging skills and knowledge and therefore closes gaps between the several disciplines within OEH. Experiential learning enables participants to reflect on their personal experiences, e.g. through workplace visits. Finally, active learning empowers the learner to take the leading role in the learning process using e.g. problem- or project-based learning approaches. Conclusion: Training and education in OEH should become a higher priority by including it in the standard public health and medical curricula. For this, train the trainer approaches are essential in many countries. Any OEH training should follow the interdisciplinary, experiential and interactive learning approach and should be accessible to participants from all regions.

M

Mallawaarachchi, V. et.al. (2018). Experiential Learning in Bioinformatics – Learner Support for Complex Workflow Modelling and Analysis. *International Journal of Emerging Technologies in Learning* – Vol. 13, No. 12 https://doi.org/10.3991/ijet.v13i12.8608 *

Bioinformatics is focused on deriving biological understanding from large amounts of data with specialized skills and computational tools. Students, who wish to pursue a career as a bioinformatician, are required to have a good understanding in biology and computer science. One of the challenging areas for a student learning in bioinformatics is complex workflow modelling and analysis; it incorporates several threshold concepts and liminal spaces for student learning, which demands higher levels of cognitive skills, active exploration and reflective reinforcement in student learning. Hence, proper learning material and

interactive tools are required to support student learning through active exploration and experiential learning. The study presents the successful use of such a learner support tool, BioWorkflow [1], we developed to be used in bioinformatics teaching and research. An evaluation was done with a student sample (n=80), where the first group (n1=40) was given only the relevant course material and the second group (n2=40) was given the course material along with BioWorkflow to visualize concepts relevant to sequence alignment and workflow modelling. Better learning engagement during the experiment, better performance at advanced questions and a positive user response were observed from the students who used BioWorkflow tool, compared to the control group. Student feedback strongly supported the fact that tools similar to BioWorkflow are an essential element for enhancing teaching and learner support in bioinformatics; students appreciated the tool usability and its help obtained for scoring high grades at the assessment

Manolas, E. (2017). Short Stories and Climate Change: An Application of Kolb's Experiential Learning Model. In *Handbook of Climate Change Communication:* Vol. 2, pp.37-46 DOI · 10.1007/978-3-319-70066-3_3

This chapter reviews the emergence of climate fiction as a literary phenomenon, discusses the importance of short stories as a teaching tool, presents David A. Kolb's experiential learning model and finally attempts to apply the model via the use of short stories which include some aspect of climate change in their plot. The application suggested is followed by some observations which will be useful to those who wish to apply this method in their settings

Mann, J. (2018). Is school working for teenage boys? Outdoor learning and real-life skills could be the keys to re-engagement. *Curriculum Perspectives* 38:169–174 https://doi.org/10.1007/s41297-018-0051-0 *

Before students can thrive academically, they first need to be engaged with their school learning experience. The construct of student engagement has been correlated with a variety of educational outcomes, including: school attendance, classroom behaviour, academic performance and school retention (eg. Appleton et al. 2008). A recent Grattan Institute report suggested that as many as 40% of Australian students are consistently disengaged in class, and that these students are one to two years behind their peers in academic performance

Florence Martin∗, Chuang Wang, Ayesha Sadaf (2018). Student perception of helpfulness of facilitation strategies that enhance instructor presence, connectedness, engagement and learning in online courses. *The Internet and Higher Education* 37 52–65 https://doi.org/10.1016/j.iheduc.2018.01.003 *

Instructors use various strategies to facilitate learning and actively engage students in online courses. In this study, we examine student perception on the helpfulness of the twelve different facilitation strategies used by instructors on establishing instructor presence, instructor connection, engagement and learning. One hundred and eighty eight graduate students taking online courses in Fall 2016 semester in US higher education

institutions responded to the survey. Among the 12 facilitation strategies, instructors' timely response to questions and instructors' timely feedback on assignments/projects were rated the highest in all four constructs (instructor presence, instructor connection, engagement and learning). Interactive visual syllabi of the course was rated the lowest, and video based introduction and instructors' use of synchronous sessions to interact were rated lowest among two of the four constructs. Descriptive statistics for each of the construct (instructor presence, instructor connection, engagement and learning) by gender, status, and major of study are presented. Confirmative factor analysis of the data provided aspects of construct validity of the survey. Analysis of variance failed to detect differences between gender and discipline (education major versus non-education major) on all four constructs measured. However, undergraduate students rated significantly lower on engagement and learning in comparison to post-doctoral and other post graduate students.

Mazo, L. B. (2017). *University Educators' Instructional Choices and Their Learning Styles Within a Lesson Framework* (Doctoral dissertation, Walden University). *
    Research on learning styles often focuses on the learning style of the student; however, the learning style of the educator may affect instructional choices and student learning. Few studies have addressed the lack of knowledge that exists in universities with respect to educators' learning styles and a lesson framework (development, delivery, and debriefing). This sequential mixed methods study explored university educators' conscious, reflective instructional choices as they related to learning styles application within a lesson. Two theoretical frameworks and one conceptual framework drew on Kolb's experiential learning theory; Bloom's, Reigeluth's, and Gagné's instructional design theories and models; and Fiddler and Marienau's events model of learning from experience. Research questions addressed learning styles, usage patterns, instructional choices, and reflections of university educators within a lesson framework. An online inventory recorded 38 university educators' instructional choices, learning styles, and learning styles patterns within the framework of a lesson. Interviews were conducted with 7 of the university educators to document their conscious reflections regarding their instructional choices. Results from the inventory identified that more than 56% of university educators applied the accommodation learning style during the stages of development and delivery of a lesson, and 34% applied the assimilation learning style during the debriefing stage; these findings were supported by detailed reflections about participants' instructional choices in relation to their learning styles. The knowledge acquired about learning styles applications within a lesson framework may benefit university educators' teaching, thereby providing a foundation for positive social change within academic and social communities.

McIntyre, N., Mainhard, T. & Klassen, R. (2017). Are you looking to teach? Cultural, temporal and dynamic insights into expert teacher gaze. *Learning and Instruction*. DOI: 10.1016/j.learninstruc.2016.12.005 *
    We know that teachers' gaze patterns affect student learning, that experts and novices differ in their gaze during teaching and that gaze patterns differ by culture in non-educational settings. However, teacher gaze research is limited to Western cultural contexts and largely to laboratory settings. We explored expert and novice teacher gaze

in real-world classrooms in two cultural contexts: Hong Kong and the UK. Forty teachers wore eye-tracking glasses during teacher-centred activities. We analysed 'communicative gaze' (gaze during talking) and 'attentional gaze' (gaze during questioning). We compared static (i.e., aggregated) and dynamic (i.e., structural) measures across expertise and cultures. Expert teachers looked longer at students and showed greater gaze efficiency than novices did, during attentional and communicative gaze. Expert teacher gaze was also more strategically consistent. In terms of cultural differences, UK teachers displayed greater attentional efficiency whereas Hong Kong teachers displayed greater efficiency in their communicative gaze. Our research underscores the value of going beyond conventional static analyses for culturally sensitive gaze research.

McKenna, L. et.al. (2018). Learning style preferences of Australian accelerated postgraduate preregistration nursing students: A cross-sectional survey. *Nurse Education in Practice* 28 (2018) 280–284 *

> Graduate entry programs leading to registration are gaining momentum in nursing. These programs attract student cohorts with professional, cultural, gender and age diversity. As a consequence of this diversity, such accelerated programs challenge traditional pedagogical methods used in nursing and require different approaches. To date, however, there has been limited research on the learning styles of students undertaking these programs to inform academics involved in their delivery. Kolb's Experiential Learning model has been used widely in a variety of educational settings because it is based on the theory of experiential learning. More recently VARK (Visual, Aural, Read/write and Kinaesthetic) model has become popular. The aim of this study was to investigate the learning styles of two cohorts of graduate entry nursing students undertaking an accelerated masters-level program. This was a cross-sectional survey of two cohorts of Master of Nursing Practice students enrolled at a large Australian university. The students were more inclined toward converging (practical) and least toward concrete experience (experiencing) learning styles. The majority of students were more inclined toward kinaesthetic and least toward aural learning style. Findings have implications for academics engaged in teaching graduate entry nursing students.

Mento, C., Merlo, E. M. & Settineri, S. (2017) , Italian adaptation of the Kolb's Learning Styles Inventory-2: A preliminary study *Mediterranean Journal of Clinical Psychology* MJCP ISSN: 2282-1619 VOL 5 N.1 *

> The ability to understand Learning Styles, provided by Kolb's studies, suggests that the instrument can be used on the Italian population in a translated and adapted form. In this study, correlational and factorial re-analysis, in line with the psychometric evidence in the literature, shows how the four scales, Abstract Conceptualization (AC), Concrete Experience (CE), Reflective Observation (RO), Active Experimentation (AE), come together as in the original Kolb's hypothesis, in a bipolar dimension. The assessment of the Learning styles applied to the students of Medicine and Surgery, is interesting for the many different approaches into medical science and different professional choices

Mercer, T.G. et.al. (2017). The Use of Educational Game Design and Play in Higher Education to Influence Sustainable Behaviour. *International Journal of Sustainability in Higher Education*

18(3): 359-384 *

Purpose The purpose of this paper is to discuss a novel life cycle approach to education for sustainable development (ESD) where the students become "design thinkers". • Design/methodology/approach A case study on the creation, development and utilisation of educational games by university students is presented. We discuss the case study in the context of Kolb's experiential learning and Dynamic Matching model, Perry's stages of intellectual development and Beech and Macintosh's Processual Learning model. The data used was from questionnaire feedback from the pupils that played the games and students that designed the games. Further qualitative feedback was collected from local schools involved in playing the games created by the students. • Findings. Overall, the students responded positively to the assessment and would like to see more of this type of assessment. They enjoyed the creativity involved and the process of developing the games. For the majority of the skill sets measured, most students found that their skills improved slightly. Many students felt that they had learnt a lot about effectively communicating science. The school children involved in playing the student created games found them accessible with variable degrees of effectiveness as engaging learning tools dependent on the game. • Originality/value. This paper contributes a new approach to ESD which incorporates learner-centred arrangements within a full life cycle of game creation, delivery, playing and back to creation. The games can be used as a tool for enhancing knowledge and influencing behaviours in school children whilst enhancing ESD capacity in schools. The assessment also helps forge important links between the academic and local communities to enhance sustainable development.

Barbara Merrill, Andrea Galimberti, Adrianna Nizinska and José González-Monteagudo (2018). *Continuity and Discontinuity in Learning Careers: Potentials for a Learning Space in a Changing World*. 978-90-04-37547-5 Downloaded from Brill.com *

In recent years the economic crisis in Europe and beyond has had, and continues to have, social, economic and political consequences. New challenges, as well as threats are posed to adult education which both offer a potential way out of the crisis and an alternative to the dominant stories played out by the neoliberal economic discourse. Within this framework and context this book explores the role of adult education in relation to continuity and discontinuity of the learning careers of adults, and particularly non-traditional students, in a range of adult education learning contexts in Europe and also outside Europe. By non-traditional student we mean groups who, in some way, are under-represented in adult education. This includes quite a diverse range of groups such as mature students, working class students, women, students from ethnic minorities and students with disabilities who, in relation to higher education, are often the first generation in their family to go to university. Focusing on non-traditional students also raises issues of inequalities such as class, gender, race and age, (Finnegan & Merrill, 2017; Reay, 2005) and marginality which may impact upon their learning experiences and careers which for some may lead to discontinuous learning careers or even leading to dropping out of education. However, there are also other adults who use their agency and resilience to complete their studies in a continuous learning journey. The chapters in this book illustrate a similarity of experiences across countries and continents.

Meyer, I. S., Louw,A. & Ernstzen, D (2017). Physiotherapy students' perceptions of the dual role of the clinical educator as mentor and assessor: Influence on the teaching–learning relationship. *South African Journal of Physiotherapy*

Micheaux, A. & Bosio, B. (2018).Customer Journey Mapping as aNew Way to Teach Data-Driven Marketing as a Service *Journal of Marketing Education* 1–14 sagepub.com DOI: 10.1177/0273475318812551*

> As firms gather increasing amounts of data, the question of how future marketers can use these data to make their marketing more relevant and to make a strategic difference remains. However, students may feel uncomfortable about information systems and database technology, which they may perceive as complex and dry. This case describes how the development of a course on data-driven marketing makes use of service design methods. The experiential learning innovation is based on the optimization of customer journey mapping, which encompasses theoretical marketing concepts, modern database architecture and practical digital marketing knowledge. As a visualization of individual interactions with a product, service, or brand, customer journey mapping helps explain the way an interaction occurs in one moment and how it influences all other moments. By taking the "data as a service" perspective on the customer journey, students benefit from a more innovative and creative approach to data-driven marketing, which helps improve their attention and motivation.

Moen, F., Myhre, K., Allgood, E. & Reistad, I B. (2017). Views about Knowledge Acquisition for Coaching Practice. *Operant Subjectivity: The International Journal of Q Methodology* 38/3-4 (2016): 1-15, DOI: 10.15133/j.os.2016.011 *

> This study explores coaches' subjective views about how they acquire knowledge for their coaching practice. A Q sample of 45 opinions about different sources for knowledge acquisition, and how such sources affect learning at personal, relational, and content knowledge levels, was presented to sport coaches. Forty-five coaches from 11 different sports on both elite and national medium levels were asked to consider and rank-order the statements through a Q sorting procedure. Following Centroid factor extraction and Varimax rotation, a three-factor solution was chosen. The factors reflected three points of view about sources of knowledge acquisition for coaching practice. Some implications for coaching practice are noted and discussed.

Montgomery, S. P. (2017). The Playful Art Museum: Employing Creativity as a Tool for Visitor Engagement. Master of Arts Thesis in the Graduate School of the Ohio State University. *

> Using Simon Sinek's 'Golden Circles' framework, this study begins by identifying what a hub for creative engagement is—a space that provides opportunities for visitors to foster creativity through participatory engagement. This study then explores how large regional art museums implement hubs for creative engagement. Using the Wonderkamers in the Gemeentemuseum in the Netherlands and the Center for Creativity in the Columbus Museum of Art in the United States as case studies, this study relies on a mixed-methods approach of synthesizing publicly available sources, curator interviews, and participant observations to understand how these spaces impact visitor creativity and visitor engagement. Participant observations reveal that visitors of all ages are attracted to hubs for creative engagement, that visitors are more likely to choose

participatory over passive engagement when given the option, and—per Stuart Brown's (2010) typology of play—that social, creative, and object play occur most frequently when they participate. By comparing these findings to the curators' intentions for these spaces, this study also reveals how effectively these hubs for creative engagement meet their intended goals. Finally, this study finds that creativity and innovation are understood in largely the same way in both the United States and the Netherlands, making hubs for creative engagement an asset for art museums in more than one region of the world. Consequently, this study provides a framework for how to implement a hub for creative engagement that can be utilized by any applicable art museum.

Moorhouse, M., Dieck, C. T. & Jung, T. (2019). An Experiential View to Children Learning in Museums with Augmented Reality Unpublished manuscript. *

> Museums facilitate schoolchildren's experiential learning, and when combined with Augmented Reality (AR) applications, schoolchildren can benefit from interactive, engaging learning experiences. Experiential learning is therefore situated in a context relevant to schoolchildren's learning experience with digital technologies such as AR in museums, hence, it seems appropriate to employ Kolb's (1984) Experiential Learning Cycle as a theoretical base. A museum in the UK was used as a single case study, and experiments and three focus groups were conducted with 19 schoolchildren and data analysed using thematic analysis. This study revealed three new themes specific to schoolchildren's experiential learning experiences with AR in museums including: (1) integrating AR could further enhance knowledge acquisition, (2) schoolchildren were able to identify their preferred learning style, and (3) schoolchildren are motivated to continue learning with AR in museums. Theoretical contributions and practical implications are presented, as well as suggestions for future research.

Moorhouse M. Dieck, C. T. & Jung, T. (2017). Augmented Reality to enhance the Learning Experience in Cultural Heritage Tourism: An Experiential Learning Cycle Perspective. *eReview of Tourism Research* *

> Augmented reality (AR) applications are a powerful, modernized tool with the potential to engage students to develop skills for the future, and enhance the overall learning experience. Kolb's Experiential Learning Cycle has been widely adopted in education studies to develop more appropriate learning opportunities. However, the adoption of the specific model in the context of AR as a learning tool for school children in cultural heritage tourism remains scarce. Hence, this study aims to address the gap in the literature, with an aim to assess how utilizing new and innovative technologies can enhance the overall learning experience in the cultural heritage tourism context. Experiments and three focus groups were conducted and analyzed using thematic analysis, and findings demonstrate a positive response from participants, revealing that new knowledge was gained as a result of the AR experience, thus, supporting the potential of AR in education, and in cultural heritage tourism.

Moser S. & Zumbach J., Exploring the development and impact of learning styles: An empirical investigation based on explicit and implicit measures, *Computers & Education* (2018), doi: 10.1016/j.compedu.2018.05.003 *

It is still controversial whether learning styles are unchangeable dispositions or flexible characteristics. Research on the development of learning styles is therefore in high demand. We suggest a conceptual model that describes both explicit and implicit cognitive processes involved in processing instructional material. We also propose an implicit association test (learning styles IAT). In a first study (N = 126), we evaluate the stimulus material for the IAT. In a second study (N = 104), we investigate the correlations between the implicit and explicit measures used. We further examine interactions between learning styles and learning outcomes as well as cognitive load. Two versions of a computer-based learning program (verbal vs. visual presentation of information) were used. The results reveal that matching learning styles and learning materials neither leads to better learning outcomes nor to a lower cognitive load. Additionally, neither implicit nor explicit measures were able to predict learning outcomes.

Mthembu, T.G., Wegner, L. & Roman, N.V. (2018). Educators' and students' needs for teaching and learning strategies regarding integrating spirituality and spiritual care in occupational therapy education. *African Journal for Physical Activity and Health Sciences*, 24(2), 127-141. *
>   Spirituality and spiritual care are both generating considerable interest as part of holistic and client-centred approaches of the profession of Occupational Therapy. Concerns have been raised regarding the teaching and learning needs of occupational therapy educators and students regarding spirituality and spiritual care. The aim of this study was to explore educators' and students' needs regarding teaching and learning strategies for integrating spirituality and spiritual care in the South African occupational therapy education. An interpretive, qualitative exploratory-descriptive approach was used with nine educators and 29 students who were purposively recruited from a university in the Western Cape Province, South Africa. Four focus group discussions were used for data collection and thematically analysed and managed in Atlas.ti 7. Two themes emerged: "We actually use transformative learning as a pedagogical approach," and "We need philosophical guidelines for integrating spirituality". These results imply that the transformative learning theories could contribute significantly to the integration of spirituality and spiritual care in occupational therapy education. Additionally, the findings support the use of critical reflection and consciousness-raising as teaching and learning strategies for spirituality. Overall, the findings indicated that the phases of transformative learning could be used to integrate spiritualty and spiritual care in occupational therapy education. This study suggests a basis for development of guidelines to assist the educators and students to address the need for integrating spirituality in the occupational therapy classroom.

Mukhalalati, B. A. & Taylor, A. (2019). Adult Learning Theories in Context: A Quick Guide for Healthcare Professional Educators. *Journal of Medical Education and Curricular Development Volume 6: 1–10* sagepub.com/journals-permissions DOI: 10.1177/2382120519840332 *
>   Background: Adult learning theories play a pivotal role in the design and implementation of education programs, including healthcare professional programs. There is a variation in the use of theories in healthcare professional education programs and this is may be in part due to a lack of understanding of the range of learning theories available and paucity of specific, in-context examples, to help educators in considering alternative theories

relevant to their teaching setting. This article seeks to synthesize key learning theories applicable in the learning and teaching of healthcare professionals and to provide examples of their use in context. Meth od and results : A literature review was conducted in 2015 and 2016 using PubMed, Scopus, Web of Science, and ERIC academic databases. Search terms used identified a range of relevant literature about learning theories, and their utilization in different healthcare professional education programs. The findings were synthesized and presented in a table format, illustrating the learning theory, specific examples from health and medical education, and a very brief critique of the theory. Outcome : The literature synthesis provides a quick and easy-to-use summary of key theories and examples of their use to help healthcare professional educators access a wider range of learning theories to inform their instructional strategies, learning bjectives, and evaluation approaches. This will ultimately result in educational program enhancement and improvement in student learning experiences.

Mulligan K, et al., (2017), Inclusive design in architectural practice: Experiential learning of disability in architectural education, *Disability and Health Journal* http://dx.doi.org/10.1016/j.dhjo.2017.08.009 *

Background: The built environment can facilitate or impede an individual's ability to participate in society. This is particularly so for people with disability. Architects are well placed to be advocates for design that enhances societal equality.
Objective: This qualitative study explored architectural design students' perceptions of inclusive design, their reflections resulting from an experiential learning module and the subsequent influence of these on their design practice.
Methods: Twenty four architectural design students participated in focus groups or individual interviews. Data were analyzed thematically.
Results: Three themes were evident: 1) Inclusive design was perceived as challenging, 2) Appreciation for the opportunity to learn about the perspectives of people with disabilities, and 3) Change of attitude toward inclusive design. Experiential learning had fostered reflection, changes in attitude and the realization that inclusive design, should begin at the start of the design process.
Conclusions: For equitable access for all people to become reality, experiential learning, coupled with positive examples of inclusive design should be embedded in architectural education.

Myers, C. (2017). Coactive Vicarious Learning: Towards a Relational Theory of Vicarious Learning in Organizations. Published online before print December 11, 2017, doi: 10.5465/amr.2016.0202   ACAD MANAGE REV December 11, 2017   amr.2016.0202 *

Vicarious learning - individual learning that occurs through being exposed to, and making meaning of, another's experience - has long been recognized as a driver of individual, team, and organizational success. Yet existing perspectives on this critical learning process have remained fairly limited, often casting vicarious learning as simply an intrapersonal, one-way process of observation and imitation. Largely absent in prior perspectives is a consideration of the relational dynamics and underlying behaviors by which individuals learn vicariously through interacting with others - rendering these perspectives less useful for understanding learning in the increasingly interconnected work of modern organizations. Integrating theories of experiential learning and symbolic

interactionism, I offer a theoretical model of coactive vicarious learning, a relational process of co-constructed, interpersonal learning that occurs through discursive interactions between individuals at work. I explore how these interactions involve the mutual processing of another's experience; are influenced by characteristics of the individual, relational, and structural context in organizations; and lead to growth not only in individuals' knowledge, but also in their individual and relational capacity for learning and applying knowledge. I close by discussing the implications of this conceptual model for the understanding and practice of vicarious learning in organizations

Meyer, I. S.,Louw, A. & Ernstzen, D. (2017) Physiotherapy students' perceptions of the dual role of the clinical educator as mentor and assessor: Influence on the teaching–learning relationship *South African Journal of Physiotherapy* ISSN: (Online) 2410-8219, (Print) 0379-6175

Background: Clinical education is widely considered to be the cornerstone of health care professionals' education. Clinical educators (CEs) fulfil many roles and act as both mentors and assessors in the learning process of students' undergraduate health care professions education. However, changing from being a mentor to being an assessor may present particular challenges for both the CE and the students. Objective: To explore students' perceptions of how the dual role of a CE as mentor and assessor influenced the teaching–learning (T-L) relationship. Method: A qualitative descriptive study, involving seven individual semi-structured interviews and two focus group discussions, was conducted with students in the Division of Physiotherapy, Stellenbosch University. A contextualised interpretive content analysis was used to analyse the data. By following an iterative process, themes were identified and categories were reviewed and refined. Results: Challenges were experienced when CEs had to act and change as both mentors and assessors to the needs of the students. This influenced the T-L relationship and consequently impacted the learning of students. The expectations of students and CEs were often not fulfilled. Contradictions were disclosed regarding the dual role of CEs. Conclusion: The findings of the study, grounded in the perceptions and experiences of students on the dual role of the CE, are highlighted. It is important to consider the challenges that the students face in order to minimise any negative effects these challenges could have on students' learning processes.

N

Shaylene E. Nancekivell, Priti Shah, and Susan A. Gelman (2019). Maybe They're Born With It, or Maybe It's Experience: Toward a Deeper Understanding of the Learning Style Myth. *Journal of Educational Psychology.* *http://dx.doi.org/10.1037/edu0000366* *

Decades of research suggest that learning styles, or the belief that people learn better when they receive instruction in their dominant way of learning, may be one of the most pervasive myths about cognition. Nonetheless, little is known about what it means to believe in learning styles. The present investigation uses one theoretical framework—psychological essentialism—to explore the content and consistency of people's learning style beliefs. Psychological essentialism is a belief that certain categories (such as dogs, girls, or visual learners) have an underlying reality or true nature that is biologically based and highly predictive of many other features (Gelman, 2003). We tested the

prevalence of erroneous essentialist beliefs regarding learning styles in both educators and noneducators, including that learning styles are innate, unchanging, discrete, and wired into the brain. In each of two experiments, we identified two groups of learning style believers, with one group holding an essentialist interpretation of learning styles, and the other group holding a nonessentialist interpretation of learning styles. No differences were found between educators' and noneducators' beliefs. In fact, only one factor was found to be a significant predictor of learning style beliefs for educators: the age of the population with whom they work. Specifically, those who worked with younger children were more likely to interpret learning styles in an essentialist way. Together the findings demonstrate that learning style beliefs are far more complex and variable than previously recognized.

Nordmann, E. et.al. (2018). Turn up, tune in, don't drop out: the relationship between lecture attendance, use of lecture recordings, and achievement at different levels of study. *Higher Education* https://doi.org/10.1007/s10734-018-0320-8 *

Lecture capture tends to polarise the views of academic staff. Some view it as encouraging non-attendance at lectures. Others view it as a valuable adjunct, allowing students to revisit the lecture experience and providing opportunities for clarification and repetition of key points. However, data supporting either of these stances remains scarce. Irrespective of these views, a more pertinent question pertains to the impact of lecture attendance and the use of recordings on student achievement. Findings remain unclear due to methodological issues, inconsistent findings, and a lack of differentiation of students by year of study. This paper investigated the impact of attendance, lecture recording, and student attainment across four years of an undergraduate programme. For first year students, attendance and recording use were positive predictors of performance. For weaker students, supplementary recording use was beneficial but only better students use of the recordings helped overcome the impact of low attendance. For second year students, attendance and recording use were positively correlated with, but no longer predictive of, achievement. There was no relationship for honours year students. We found no compelling evidence for a negative effect of recording use, or that attendance and recording use were related. We suggest focusing on improving lecture attendance through monitoring whilst also providing recordings for supplementary use, particularly in first year. Finally, our findings highlight the need to consider third variables such as year of study and first language when conducting and comparing lecture capture research.

Nunes, F. B. et.al. (2018). A Teaching Method Based on Virtual Worlds and Mastery Learning. *Journal of Virtual Worlds Research* Vol. 11, No. 3 *

The evolution of virtual worlds in education has provided the creation of new pedagogical alternatives. In the present study, we explore this potential, integrating the Bloom's Mastery Learning theory, designing a teaching method based on periodical assessments, and supplementary, support offered through the use of an OpenSim virtual world. An experiment was carried out during half of the school year of 2017, involving 74 sixth grade students in a Science class, divided in control and experimental groups. The results demonstrated better performance of the group using the virtual world in comparison to the group using the Moodle learning platform, in which, the post-test

presented a slightly higher median for Group 2 (84.50) compared to Group 1 (83.00). As for the student's impressions, it was in general of acceptance and positive impressions about the experience.

Nyström et al. (2018) Exploring the potential of a multi-level approach to improve capability for continuous organizational improvement and learning in a Swedish healthcare region. *BMC Health Services Research* 18:376 https://doi.org/10.1186/s12913-018-3129-3 *

Background: Eldercare and care of people with functional impairments is organized by the municipalities in Sweden. Improving care in these areas is complex, with multiple stakeholders and organizations. Appropriate strategies to develop capability for continuing organizational improvement and learning (COIL) are needed. The purpose of our study was to develop and pilot-test a flexible, multilevel approach for COIL capability building and to identify what it takes to achieve changes in key actors' approaches to COIL. The approach, named "Sustainable Improvement and Development through Strategic and Systematic Approaches" (SIDSSA), was applied through an action-research and action-learning intervention. Methods: The SIDSSA approach was tested in a regional research and development (R&D) unit, and in two municipalities handling care of the elderly and people with functional impairments. Our approach included a multilevel strategy, development loops of five flexible phases, and an action-learning loop. The approach was designed to support systems understanding, strategic focus, methodological practices, and change process knowledge - all of which required double-loop learning. Multiple qualitative methods, i.e., repeated interviews, process diaries, and documents, provided data for conventional content analyses. Results: The new approach was successfully tested on all cases and adopted and sustained by the R&D unit. Participants reported new insights and skills. The development loop facilitated a sense of coherence and control during uncertainty, improved planning and problem analysis, enhanced mapping of context and conditions, and supported problem-solving at both the individual and unit levels. The systems-level view and structured approach helped participants to explain, motivate, and implement change initiatives, especially after working more systematically with mapping, analyses, and goal setting. Conclusions: An easily understood and generalizable model internalized by key organizational actors is an important step before more complex development models can be implemented. SIDSSA facilitated individual and group learning through action-learning and supported systems-level views and structured approaches across multiple organizational levels. Active involvement of diverse organizational functions and levels in the learning process was facilitated. However, the time frame was too short to fully test all aspects of the approach, specifically in reaching beyond the involved managers to front-line staff and patients.

O

Omar, M. K., Khambari, M. N. M., Ma'arof, A. M., Ismail, I. A., Kamalden, T. F. T., Jalil, H. A., Arshad, M. M. (2018). Developing Employability Skills from Service-learning Experience at Putra Future Classroom (PFC). *International Journal of Academic Research in Business and Social Sciences,* 8(12), 472–490. *

Service-learning imposes a practical dissemination of knowledge though hands-on practices and 'learning-by-doing'. Often, service-learning has been misinterpreted with the concept of volunteerism where service-learning offer the application of theoretical knowledge which learned through traditional classroom then applying knowledge through volunteering work. The blending process of theoretical knowledge and practical learning environment produces meaningful learning experiences and tends to be more effective in remembering and skills-to work. We carried out a case study of 15 postgraduate students who experienced service-learning project at Putra Future Classroom at the Faculty of Educational Studies, Universiti Putra Malaysia. A specific project call "Earth Day" was organized in commemorating the annual earth day celebration around the world. The project involved a children age between four to six years old who experienced numerous activities related to earth day awareness campaign. This article explored narrative feedback through qualitative approach to discover postgraduate students' experiences of organizing service-learning project and explore the learning experiences from theoretical knowledge learned in the traditional classroom for the course Program Evaluation in Technical and Vocational Education and Training (TVE5006 and EDU5443). At the end of the service-learning project, the students were asked to answer an open-ended qualitative question disseminated via JotForm, an online questionnaire platform during the process of qualitative data collection. All answers were recorded and later analysed thematically using a two-layer of constant comparative analysis method and triangulated with class assignments, obervations and reflection notes. The findings indicated seven themes that emerged from the analysis. Salient benefits of service-learning project for post graduate learning.

Optimal Snowsports & Parallel Dreams Coaching (2017). Six lessons to develop your skiing performance and enjoyment Lesson 2 - Purposeful Practice. *

Statements such as 'correct practice makes perfect' and 'practice makes permanent' are commonly used in relation to improving skills and there is no doubt that without sufficient practice you cannot expect to develop your skills to a high level let alone achieve mastery. But practice needs to be more sophisticated than simple repetition. It needs to be purposeful and if possible deliberate. In this lesson I will look at what purposeful and deliberate practice are and how you can ensure that the time you spend developing your skiing skills is time well spent. I will also look at what 'mastery' is and how you can remain motivated to achieve such high skill levels.

Österle, B., et.al. (2018), Brand worlds: Introducing experiential marketing to B2B branding. *Industrial Marketing Management* https://doi.org/10.1016/j.indmarman.2018.04.015 *

Experiential marketing instruments and the extraordinary experiences they provide are one of the strongest means of branding in B2C. Inter alia as brand worlds, they also exist in B2B marketing practice, but have only received limited attention from the B2B branding perspective. Differences between B2C and B2B branding raise questions regarding why B2B companies operate brand worlds, what they consist of, what their nature is, and how they are experienced. We build on a rich, comprehensive sample of 37 expert interviews, comprising the perspectives of operating companies, business visitors, and exhibition designers. We find that B2B brand worlds differ substantially from their B2C equivalents in several aspects, but they apply similar experiential techniques.

Operating companies' motives focus on providing live product experiences to explain complex products and create product awareness. B2B visitors expect more functional than hedonic benefits, and the visit has to support them in their own business activities. Affordances of the experiencescape and the action-perception between visitor, brand employees, and the physical environment are at the core of how the B2B brand world experiences are co-created. Our research highlights the important role and nature of B2B brand worlds as three-dimensional "business cards", where relationships are initiated and built.

P

Pelafigue, A. L. (2018) The Experiential Journey of Teacher-Scholars: "If you're not a teacher, you just don't get it". University of New Orleans Doctor of Philosophy in Curriculum and Instruction *

The Center of Graduate Schools (2015) published a report detailing applications, enrollment, and trends in graduate schools across the nation showing that approximately one third of all first-time graduate school applicants in master's degree programs utilizing the GRE assessment identify their career path in either business or teacher education. The purpose of this study was to examine the lived experiences of classroom teachers who concurrently pursued graduate studies to earn a master's degree in education and to understand how adult learning provided opportunities for personal growth and the attainment of professional goals. Individual interviews and two focus groups were conducted to uncover the essence of experiences across participant stories. Seven themes emerged from the data: 1) Teacher-scholars' reasons for returning to higher education varied based on their personal and professional needs, 2) The teacher-scholar experience elicits a vast array of emotions, challenges, and successes,   3) Teacher-scholars were self-driven to start their programs however intrinsic and extrinsic motivation provided encouragement for continued desire for success, 4) Teacher-scholars' support systems were integral to their success in their master's programs, 5) Teacher-scholars were reflective about their teaching and learning and used reflection as a tool to improve their professional capabilities, 6) Teacher-scholars used concrete learning experiences to bring their learning into their classrooms and professional lives, and 7) Teacher-scholars' educational journeys provided opportunities for here-and-now learning as well as increased marketability for a future in the field of education. Additionally, a revision to David Kolb's Experiential Learning Cycle (2015) was presented. Participant data highlighted collaboration as a necessary component to teacher-scholar success yet it was not addressed in Kolb's original model. Results from this study can be used to inform teacher education programs as well as teacher-scholars on the expectations, experiences, and perceptions of teachers who concurrently pursued higher education.

Petelczyc, C. A.,Capezio, A., Wang, L., Restubog, S. L. D. & Aquino, K. (2018). Play at Work: An Integrative Review and Agenda for Future Research. *Journal of Management* Vol. 44 No. 1, January 2018 161 –190 DOI: 10.1177/0149206317731519 *

Play has gained increasing interest among progressive-minded managers as an important driver of motivation and productivity in work contexts. Despite its popularity in contemporary organizations, there is little consensus in the academic literature about the role of play in the workplace. This review organizes and synthesizes the current state of knowledge of play at work in order to gain a more comprehensive understanding of what play at work is, when individuals engage in play at work, and the effects of workplace play on work outcomes. First, we review existing definitions of play and their limitations. We then introduce a recent conceptualization of play in adulthood that defines play based on three core features and discuss its relevance in the workplace. Second, we review theoretical perspectives on play and extant empirical research on the antecedents and consequences of play at work, organizing it according to three levels of analysis. Third, we propose a promising agenda for future research by focusing on a number of important issues that have emerged from our review of existing work. These issues are organized into two sections: refining and extending the current research on play, and generating novel ideas and new research directions on unexplored areas of inquiry. We believe this review makes important and timely contributions to the research on play at work by providing comprehensive analysis of the diverse and fragmented literature on play in the workplace

Peterson, K. & Kolb, D. A. (2017). *How You Learn Is How You Live: Nine Ways of Learning That Can Transform Your Life*. San Francisco: Berrett-Koehler

Peterson, K. & Kolb, D. A. (2018). Expanding Awareness and Contact through Experiential Learning. *Gestalt Review* Vol. 22, No. 2, SPECIAL ISSUE: Advances in a Gestalt Approach to Coaching, Consulting, and Organization Development, pp. 226-248 *

A Gestalt approach to change and adaptation focuses on awareness and contact and therefore requires learning. Experiential Learning is the primary holistic process of adaptation, which integrates interdependent pairs of opposites to be most effective. We explore how Experiential Learning can provide a framework for Gestalt practitioners to make the learning process and our approach to it explicit, thereby increasing awareness. In addition, through the process and content of Experiential Learning, we provide suggestions for using Gestalt experiments to build flexibility in using learning styles that empower us to have choice in the way we make contact. We build awareness that learning is present in every life experience and is an invitation to be engaged in each experience. We become aware that we are learning, how we are learning, and—perhaps most importantly—what we are learning.

Phuong, N. T. A. et. al. (2018). Exploring Learning Styles in Students Attended Problem-Based Learning Package at Hue University of Medicine and Pharmacy. *Journal of Problem-Based Learning* Vol.5, No.2, October, 2018 ISSN(Print) 2288-8675 ISSN(Online) 2508-9145 *

Purpose: Learning style differs among students; 4 were identified by David A. Kolb (1984). Learning style
identification plays a vital role in enhancing learning performance in response to choice of approaches to engaging students, particularly for Problem-based learning (PBL) methods used in Hue University of Medicine and Pharmacy. This research aimed to identify the learning styles of those students responding to PBL packages and investigate

relationships between their learning styles and academic performance. Methods: The cross-sectional study was conducted nursing students (N=135) who engaged with PBL packages in the subject Fundamental Nursing 3 in the second semester of the academic year 2016-2017. A questionnaire consisted of items on general characteristics, a learning style scale (Kolb LSI 3.1), and details around academic performance. Data were analyzed by using SPSS 22.0 program. Results: The findings indicated that the diverging is the descriptor of the preferred learning style of 43.7% nursing students; 24.4% represented the converging style; the accommodating style accounted for 18.5% and assimilating style was 13.3%. Our study had not yet found the effect of learning methods on the academic performance of nursing students (toward Formative result: F=0.872, p=0.235; toward Summative result: F=1.116, p=0.345). Conclusion: A majority of nursing students chose the diverging learning style over others but there was no significant difference between academic performance and learning styles. Therefore, teachers should be flexible and use different stimuli for learning in order to attempt to engage learners in stimuli for learning about different situations, irrespective of their preferred style for learning. It is important to provide optimal learning environments for most students.

Pipitone, J. M. (2018). Place as Pedagogy: Toward Study Abroad for Social Change. *Journal of Experiential Education* 1 –21 DOI: 10.1177/1053825917751509 *

Background: Emergent bodies of literature have uncovered problematic trends in U.S. study abroad that reproduce hierarchies of power and colonialism, perpetuate views of an exotic cultural "other," and privilege tourism over education. Purpose: This work responded to these problems by exploring ways of teaching and learning in study abroad that embrace the pedagogical power of place to foster awareness of the self in relation to other, cultivate relationality, and deconstruct the exotic. Methodology/Approach: Reflecting on two major findings from a longitudinal comparative case study with 19 students on short term study abroad programs to Morocco and Bali, this article considers how educators can adapt the intentions and practices of their programs to embrace the pedagogical potential of place to foster the renegotiation of representations and heightened relationality. Findings/Conclusions: Findings indicate engagement with place was fundamental to the production of experiential learning space, mediated through pedagogies that engaged students with local rhythms, meanings, and histories; social interactions; and cultural tools that engaged students in alternative ways of knowing and being in the world before and during the trip. Implications: This article offers five epistemological commitments and several pedagogical strategies to guide future program development with an eye toward social change

Priddis, L. & Rogers, S. L. (2017). Development of the reflective practice questionnaire: preliminary findings. *Reflective Practice* DOI · 10.1080/14623943.2017.1379384 *

This study introduces a new reflective practice questionnaire (RPQ) that can be used for investigating the experiences, benefits, and potential pitfalls of reflective practice and reflective supervision. This questionnaire sets itself apart from previous self-report measures of reflective practice by the ability to administer to individuals working in any service industry (e.g. psychology, nursing, education, and others). This will allow for future investigations that can compare and contrast across different contexts and professions. This will further the understanding of how reflective practice impacts those

engaged with the process. The present study provides preliminary evaluation of the questionnaire with samples from the general public (Study 1), and mental health practitioners (Study 2). The questionnaire includes a number of short four-item sub-scales for evaluating reflective practice including: reflective-in-action; reflective-on-action; reflective with others; self-appraisal; desire for improvement; confidence (general); confidence (communication); uncertainty; stress interacting with clients; and job satisfaction. A six-item attitude towards reflective supervision scale is also included in the research. Results suggest that reflective practice can foster confidence and further a desire for self-improvement. However, results also indicate how reflective practice might increase uncertainty and stress in some individuals. Study 2 reveals that a more positive appraisal of reflective supervision is associated with greater self-reported reflection, desire for improvement, and confidence.

Priddis, L. & Rogers, S. L. (2017). The reflective practice questionnaire (RPQ) scoring guide. *

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Matt Rankine (2019): The 'thinking aloud' process: a way forward in social work supervision, *Reflective Practice*, DOI: 10.1080/14623943.2018.1564651 *

> Within current neoliberal discourses, critical reflection provides
> opportunity for innovation in social work practice. This article
> describes a thinking aloud process used with supervisor–supervisee
> dyads in community-based child welfare social work to assist
> critical reflection via the use of open-ended questioning and
> inquiry. The strength of thinking aloud permitted a deeper appreciation
> of how the supervision session is utilised to reflect on
> practice and provided a learning tool within supervision. The feedback
> from the dyads concurred that thinking aloud assisted in
> stimulating reflection, developing solutions to the key issues discussed,
> and was transformative in recognising areas for future
> development. The process of thinking aloud supports the opportunity
> and space for the supervisor and supervisee to articulate
> meaning, critically develop insight, reconstruct, and transport this
> into future practice. Thinking aloud offers an example of how
> knowledge can be co-constructed by practitioners within practice
> and critical reflection captured within qualitative research
> approaches.

Rauter, S.,Weiss, M. & Hoegl, M. (2018). Team learning from setbacks: A study in the context of start-up teams. *J Organ Behav*. 2018;39:783–795. DOI: 10.1002/job.2278 *

> Although setbacks often happen as a collective experience, teams are an underresearched
> organizational unit when it comes to learning from setbacks. Despite the popular view
> that experiencing setbacks may facilitate learning, there are conflicting theoretical

assumptions about the influence of setbacks on learning. Whereas one theoretical perspective in this topic area is in line with the proverbial learning from failure, a competing perspective argues that setbacks impede learning processes. This study aims to reconcile these conflicting assumptions by proposing team reflexivity as a moderator between team-experienced setbacks and team learning. Building on social cognitive theory, we develop a model of learning from experienced setbacks at the team level. We test our hypotheses on a sample of 57 start-up teams. Our results show that the effects of team-experienced setbacks differ depending on whether the focus is on affective reactions to or cognitive perceptions of the setback experience. Although the cognitive perception of setbacks generally shows a detrimental effect on team learning, the pattern of results for an affective reaction to setbacks is more complex: The relationship between negative affective reactions to setbacks and team learning is negative for teams with low reflexivity and positive for teams with high reflexivity.

Reierson, I. A.,Haukedal, T.A., Hedeman, H. & Bjørk, I. T. (2017). Structured debriefing: What difference does it make?, *Nurse Education in Practice*, Volume 25, 2017, Pages 104-110, ISSN 1471-5953, https://doi.org/10.1016/j.nepr.2017.04.013. *

Debriefing in simulation is a cornerstone of learning. However, in-depth studies examining simulation debriefing are scarce. This study explored four key debriefing attributes—feedback, reflection, knowledge development, and psychological safety—prior and subsequent to the implementation of a new pedagogical intervention in a pre-clinical scenario simulation course. The scenarios focused on patients with deteriorating conditions and took place at bachelor's nursing degree level. The new intervention for the debriefing sessions contained a detailed observation tool describing specific, correct nursing actions for deteriorating patients; video playback watched only by students acting as nurses, and debriefing organized into two sections. The study design was explorative. To generate data, 12 debriefing sessions were audio and video recorded in 2013 and 11 in 2014. Two student groups participated each year, comprising 16 and 10 students, respectively. Qualitative analysis was performed to examine the transcribed audio and video recordings. Relative to the 2013 cohort, the reflections of observers and the students acting as nurses were more assertive, and students' feedback was more specific and comprehensive in the 2014 cohort. Conducting in-depth studies examining debriefing is important to increase knowledge regarding the impact of pedagogical underpinnings on debriefing content and processes

Bettina Renner, Gudrun Wesiak, Viktoria Pammer-Schindler, Michael Prilla,
Lars Müller, Dalia Morosini, Simone Mora, Nils Faltin & Ulrike Cress (2019): Computer-supported reflective learning: how apps can foster reflection at work, *Behaviour & Information Technology*, DOI: 10.1080/0144929X.2019.1595726 *

This paper discusses the potential of ICT to support reflective learning for professionals. We aggregated data collected in 20 field studies with 12 different applications, involving a total of 321 participants. The applications addressed individual reflection as well as collaborative reflection. Such a systematic analysis with different applications used across industry sectors and companies is unique in the current literature on computer-supported reflective learning in the workplace. Primarily, we assessed the reaction to reflection applications and their effectiveness regarding learning, behaviour change, and

organisational impact. In addition, we investigated differences with respect to work experience. Results show that users had a positive reaction to the apps and perceived their use to be beneficial for their work by using them. In collaborative reflection an inexperienced employee can benefit from the experiences and perspectives of more experienced (co-)workers. In contrast, individual reflection was more profitable for more experienced workers. Notwithstanding the overall positive results, the actual implementation of reflection applications requires careful adaptation to the specific organisational and situational context, as well as introductory and accompanying measures to assure efficient and beneficial usage of the tools.

Keri E. Revens, Andrew D. Reynolds, Roger F. Suclupe, Cameron Rifkin & Taylor Pierce (2018) "You can never understand a culture until you experience it": How an experiential learning course prepared students for practice with Latino communities through learning for advocacy, *Journal of Teaching in Social Work,* 38:3, 277-291, DOI: 10.1080/08841233.2018.1460289 *

This study used grounded theory to analyze focus group data of students participating in an experiential learning course developed in partnership with a local Latino-serving community agency. A central phenomenon, Learning for Advocacy, emerged from the data, describing a process through which students' personal encounters led to the development of awareness and perspective taking, thereby encouraging students to develop an advocacy orientation for practice with Latino clients and communities. Study findings highlight (a) how experiential courses support students' development of an advocacy orientation and (b) how social work programs in newly emerging Latino communities might approach the development of an experiential learning course to prepare students to serve these communities.

Rigg, C. (2018). Somatic learning: Bringing the body into critical reflection. *Management Learning.* Vol. 49(2) 150–167 *

Critical reflection is a process of bringing unquestioned assumptions to the fore for critique, through paying attention to dissatisfactions, discrepancies, tensions and contradictions in experience. It is important because it helps reveal the complexities for and against learning that are embedded in a particular context. Aesthetics and a focus on emotional and political dynamics are two approaches already being used to encourage learning through critical reflection. However, this article argues there is still more benefit to be gained from understanding how and why a focus on the body can support critically reflective perspectives on learning. My contribution is to illustrate how Buddhist practices of mindfulness meditation and associated philosophy can inform a somatic learning process that connects bodily sensation to cognition.

Roberts, R. & Montgomery, D. (2017). Using Epistemological Positions and Orientations to Instruction to Explore SchoolBased, Agricultural Educators' Perceptual Identities: A Q-Sort Study. *Journal of Agricultural Education*, 58(1) 151-171.

https://doi.org/10.5032/jae.2017.01151 *

> Mounting empirical evidence suggests the conflation of teachers' instructional orientations and personal epistemological beliefs helps form the perceptual identity of educators. The current study, therefore, sought to describe in what way Oklahoma agricultural education teachers' epistemological beliefs and orientations toward instruction combine to form the dominant perceptual identities of school-based, agricultural education (SBAE) instructors. To accomplish this, a Q methodological approach was employed. Findings revealed three key perceptual identities of SBAE instructors: Diligent Educator, Daring Educator, and Devoted Educator. Each perceptual identity stressed the importance of experiential learning. However, positions differed in how they believed experiential learning should be delivered to students. For example, Diligent Educators maintained that learning should involve a well-designed educational plan that stresses hard work. Devoted Educators, however, placed emphasis on nurturing students throughout the learning process. Meanwhile, Daring Educators contend knowledge is more fluid and self-constructed. Using Perry's (1970) epistemological development scheme and Bowden's (1990) conception of phenomenographic pedagogy, recommendations for praxis are offered for each perceptual identity.

ROBINSON, M. J., VAN ESCH, C. & BILIMORIA, D. (2017). Bringing Transgender Issues Into Management Education: A Call to Action. *Academy of Management Learning & Education*, Vol. 16, No. 2, 300–313. https://doi.org/10.5465/amle.2015.0355 *

> We call on management educators to better equip current and future managers and leaders to understand the experiences of transgender employees and address their unique needs in the workplace. We first discuss insights about the transgender experience, based on concepts from gender and transgender scholarship, and provide a current transgender lexicon. Next, we discuss the issues and experiences faced daily by transgender people in organizations and society. Last, we discuss extant effective workplace practices regarding transgender inclusion to bring attention to what needs to be implemented in organizations. Through this essay, we encourage management educators to address transgender experiences in their classrooms so that current and future managers and leaders are able to address the needs of a gender-diverse workforce.

Rogers, S. L., Priddis, L. E., Michels, N., Tieman, M., & Van Winkle, L. J. (2019). Applications of the reflective practice questionnaire in medical education. *BMC Medical Education,* 19, 47. https://doi.org/10.1186/s12909-019-1481-6 *

> Background: We sought to determine whether the Reflective Practice Questionnaire (RPQ) is a reliable measure of reflective capacity and related characteristics in medical students. We also planned to learn how the RPQ could be used in medical education. Methods: The RPQ is a 40 item self-report questionnaire that includes a multi-faceted approach to measuring reflective capacity. It also includes sub-scales on several other theoretically relevant constructs such as desire for improvement, confidence, stress, and job satisfaction. The reliabilities of reflective capacity and other sub-scales were determined by calculating their Cronbach alpha reliability values. In the present study, the RPQ was answered by 98 graduating fourth-year medical students from an American University, and these RPQ scores were compared with general public and mental health

practitioner samples from a prior study using ANOVA and Bonferroni adjusted comparisons.

Results: Medical students reported a higher reflective capacity than the general public sample, but students were statistically indistinguishable from the mental health practitioner sample. For medical students, reflective capacity was associated with features of confidence, stress, and desire for improvement. Job satisfaction was positively associated with confidence in communication with patients, and negatively associated with stress when interacting with patients. A cluster analysis revealed that around 19% of the medical students exhibited a relatively high level of anxiety interacting with patients, 23% were less engaged, 5% were dissatisfied, and 7% expressed a level of over-confidence in their knowledge and skills that was concerning.

Conclusions: The RPQ is a reliable measure of reflective capacity (Chronbach's alpha value = 0.84) and related characteristics (Cronbach's alpha values from 0.75 to 0.83) in medical students. The RPQ can be used as part of pre-post evaluations of medical education initiatives, to complement student self-reflection activities in the curriculum, and to identify students who might benefit from targeted intervention.

Rong, P., Li, C., & Xie, J. (2019). Learning, trust, and creativity in top management teams: Team reflexivity as a moderator. Social Behavior and Personality: An international journal, 47, e8096. DOI: https://doi.org/10.2224/sbp.8096

Using the theories of social learning, social exchange, and information exchange, we proposed a theoretical model to explain the relationships of learning, trust, and creativity in top management teams (TMT), and introduced TMT reflexivity as a moderator of these relationships. Multiple regression analyses of data obtained from 594 executives in 54 TMTs revealed that team learning had a significant positive impact on TMT creativity, that team trust had a partial mediating effect in the relationship between team learning and TMT creativity, and that TMT reflexivity enhanced the positive influence of team learning on team trust. Our findings reveal the inherent relationships among team learning, team trust, team reflexivity, and TMT creativity, and can provide scientific guidance to strengthen TMT construction, team learning, and team reflexive practice.

Roux, P. W. et.al. (2018). Developing Cultural Intelligence (CQ): Designs for Blended Learning. *International Journal for Educational Media and Technology.* Vol.12, No. 1, pp.18-28 *

Building on earlier efforts to develop cultural intelligence (CQ), the current study reports on the expansion of a framework to utilize instructional design (ID) theory and experiential learning in a blended learning environment. Japanese university students' intercultural learning engagement with topical online content and media, an asynchronous exchange with international counterparts and multi-cultural workshop were tracked across one semester. CQ measures were obtained pre-/post-course, while experience-based, in-class activities were extended with online learning reflection. Course goals included critical thinking, supporting intercultural skills in English and building digital literacy. Results indicate the multi-disciplinary framework's compatibility with blended learning, and students' intercultural learning engagement patterns in terms of CQ were positive, supporting further course development despite not being statistically significant. Implications for intercultural learning, the design of instruction for blended learning, learning engagement patterns and the potential of

adaptive learning are discussed against the backdrop of continued course refinement.

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Safaeifard, N. et.al. (2019). Preferred Learning Styles of Nurses in In-Service Training Courses in Tabriz University of Medical Sciences. *ACTA FACULTATIS MEDICAE NAISSENSIS* DOI: 10.2478/afmnai-2019-0007 UDC: 614.253.5:37.015.3:378(55) *

Generally, progress, productivity and success of any organization depends on the skills and knowledge of their manpower. Thus, better and more accurate training programs in organizations will lead to their growth and efficiency will be eventually achieved. Due to the many advances in the field of medicine, nurses are the backbone of activities in organizations of medical sciences and patient's affairs. For this purpose, in-service training courses for employees are the most important courses in nursing. This study was conducted at the University of Medical Sciences (Tabriz-Iran) aiming to determine the preferred learning styles of nurses in in-service training courses. In this cross-sectional study, all nurses working in medical and educational centers in a university in the North West of Iran were randomly selected. To collect data, a two-part questionnaire of Kolb's demographic and social information was used. Data was analyzed by using descriptive and analytical statistics SPSS version 17 software. A total of 470 nurses with an average age of 36.46 ± 5.77 were studied. There was a significant correlation between preferred learning styles of nurses with nursing position, employment status, and income level. There was no a significant statistical relationship between the preferred learning style of nurses with age, work experience and experience in the center. The present study shows that the highest percentage of Kolb's learning style is related to the preferential converging learning style (57.8%). This study aimed to determine the preferred learning styles of nurse's in-service training courses in Tabriz University of Medical Sciences. The results of the study showed that converging and assimilating styles were the preferred learning ones among the majority of nurses; these styles are effective and interpreted according to their profession requiring a lot of
information and knowledge. Due to the dominance of converging learning style among nurses, it is recom-mended to use appropriate teaching methods tailored to the style including the use of diagrams, presentations, lectures and self-learning with enjoyable materials.

Herman Saksono, Carmen Castaneda-Sceppa, Jessica Hoffman, Magy Seif El-Nasr, Vivien Morris, and Andrea G. Parker. 2019. Social Reflections on Fitness Tracking Data: A Study with Families in Low-SES Neighborhoods. In CHI Conference on Human Factors in Computing Systems Proceedings (CHI 2019), May 4–9, 2019, Glasgow, Scotland Uk. ACM, New York, NY, USA, 14 pages. https://doi.org/10.1145/3290605.3300543 *

Wearable activity trackers can encourage physical activity (PA)—a behavior critical for preventing obesity and reducing the risks of chronic diseases. However, prior work has rarely explored how these tools can leverage family support or help people think about strategies for being active—two factors

necessary for achieving regular PA. In this 2-month qualitative
study, we investigated PA tracking practices amongst
14 families living in low-income neighborhoods, where obesity
is prevalent. We characterize how social discussions
of PA data rarely extended beyond the early stages of experiential
learning, thus limiting the utility of PA trackers.
Caregivers and children rarely analyzed their experiences
to derive insights about the meaning of their PA data for
their wellbeing. Those who engaged in these higher-order
learning processes were often influenced by parenting beliefs
shaped by personal health experiences. We contribute
recommendations for how technology can more effectively
support family experiential learning using PA tracking data.

Dorien Sampermans, Maria Magdalena Isac, Ellen Claes (2018). Can Schools Engage Students? Multiple Perspectives, Multidimensional School Climate Research in England and Ireland. *Journal of Social Science Education* Volume 17, Number 1, Spring 2018 ISSN 1618–5293 *

> Purpose: This article assesses how different aspects of the school climate relate to students' intended future electoral engagement. Until now, political socialization researchers found evidence for a relation between formal citizenship education in school and students' participation levels. There is less consensus, however, in how multiple aspects of informal political socialization can contribute to individuals' participatory acts. Method: To learn more about several aspects of informal political socialization and their relevance for student intended electoral participation this work draws on educational sciences and political socialization literature and focuses on multiple dimensions of school climate (cf. Konold, 2014; Lenzi, 2014) and their relationship to future electoral engagement. We rely on the English and Irish International Civic and Citizenship Survey (ICCS) 2009 data to operationalize multiple dimensions of the school climate. We estimate a structural equation model in which school climate is measured by indicators based on student and teacher questionnaire data aggregated at the school level. The relationship between multiple dimensions of school climate and student future electoral participation is tested.
> Findings: We find that in order to engage students in voting; schools should focus not only on the formal curriculum but also on more informal aspects (the school climate). Implications for research, policy, and practice are discussed.

Susana C. Santos, Xaver Neumeyer, and Michael H. Morris. (2018). Entrepreneurship Education in a Poverty Context: An Empowerment Perspective. Journal of Small Business Management 2018 00(00), pp. 1–27 https://doi.org/10.1111/jsbm.12485 *

> Empowerment is an important but understudied phenomenon in entrepreneurship education. We integrate literatures on empowerment theory and experiential learning to propose a conceptual model of empowerment-based entrepreneurship education. The concept of entrepreneurial empowerment is introduced as a cognitive state characterized by meaning, competence, self determination, and impact toward entrepreneurial activities. The model proposes that empowerment has a mediating role in the relationship between experiential learning approaches in a poverty context and the acquisition of

learning outcomes. The model is illustrated using an entrepreneurship and adversity program that supports local low-income individuals in starting and growing their ventures.

Marialuisa Saviano, Francesco CaputoMarzia Del Prete (2019). Mindful Leadership for Sustainability: A Theoretical and Conceptual Path. Excellence in Services Le Cnam 21th International Conference Paris (France) Conference Proceedings ISBN 9788890432781 639 30 and 31 August 2018 *

> The challenges of sustainability requires to deeply rethink the way in which social and economic organizations are conceived, governed, and managed with particular reference to the values and strong beliefs that inspire individuals' and organizations' behavior. Believing that the mindfulness can play a relevant role to embed sustainability into individuals' and organizations' behavior, this paper explores the links between mindfulness and sustainability and identifies the Mindful Leadership as a key bridging concept. On the basis of qualitative literature review, we highlight a gap in sustainability research related to management about the potential role of mindfulness. Accordingly, adopting a systems perspective, we outline a theoretical and conceptual path that can contribute to cover the gap linking mindfulness and sustainability through leadership. In this way, we sketch the core of the Mindful Leadership for Sustainability.
> Relevant implications indicate that mindfulness-based leadership programs for managers could help creating the appropriate context for embedding sustainability into individuals' and organizations' behavior, hence informing effective management strategies for sustainability.

Jodi L. Schoen, J. L. (2018). CONGRUENCY OF LEARNING STYLES AND TEACHING STYLES ON PERFORMANCE OUTCOMES OF CERTIFIED NURSE AIDE STUDENTS. Doctor of Philosophy in Education. Department of Workforce Education and Development In the Graduate School Southern Illinois University Carbondale. *

> The study of learning styles and teaching styles is a topic of growing interest and debate over the benefit of matching learning styles to teaching styles for improved student performance. There is a multiplicity of learning style and teaching style instruments that attempt to identify patterns or preferences. The learning theory suggests that knowing this information can improve learning through adjusting curriculum or teaching styles armed with this knowledge. A need for further research in the learning context of nurse aide student population was identified and the focus of this research. Hence, the purpose of this study was to examine the learning styles of students and teachers, teaching styles and the influence of congruency on performance. The sample for the study consisted of 187 nursing aide students and 23 instructors. The Kolb Learning Style Inventory (LSI) version 3.1, and Grasha-Reichmann Teaching Style Inventory (TSI) were used to measure learning styles and teaching styles, and a questionnaire was used to gather demographic data. These data were correlated to test scores gathered via The Illinois Nurse Aide Competency Test. The findings showed that there was no significant influence of the four learning styles identified through the Kolb LSI of accommodating, diverging, assimilating and converging. However, there was a significant relationship between the concrete experience (CE) learning style construct and decreased test performance. There were no significant findings to support the congruency

of learning styles of students and teacher on outcomes. Although the mean scores of those matching learning styles achieved a higher mean of 84.75, as compared to 80.28 to those not-matching learning styles. Teachers had an increased preference for Expert, Formal Authority and Personal Model teaching styles, and teaching style had no significant effect on test performance. The most common learning styles were Diverging (39%), Assimilating (28%), Accommodating (26%) and Converging (7%) for students, and Assimilating (40%), Diverging (35%), Converging (15%) and Accommodating (10%) for teachers.

Schutte, I. et.al. (2019). Effects of an International Undergraduate Honors Course on Awareness of Global Justice. *Educ. Sci*. 2018, 8, 82; doi:10.3390/educsci8020082 *
> How can undergraduate students be prepared for global citizenship? This question was investigated in a mixed-methods case study of an international, blended one-semester course. Undergraduate honors students (N = 22) from the USA and the Netherlands collaborated to explore what it means to be a member of the global community. Curriculum guidelines from the social justice oriented education for global citizenship were used to analyze the course's program and focus the case study. The research questions were as follows: 1. How did the course relate to the curriculum guidelines? 2. What and how did students learn from the course? Analyses of the program showed that the course partly reflects the social justice oriented global citizenship education, in particular by addressing intercultural sensitivity and experiential learning. Quantitative measures in a pre-post design with control groups (N = 40) showed some growth in ethical sensitivity and social awareness. Qualitative measures indicated that participants developed a broader view on society and demonstrated a more open and active attitude towards others after the course. Experiential learning was considered a powerful aspect of the pedagogical approach. The results are discussed in relation to a developmental process whereby students gain awareness of global justice issues.

Seaman, J., Brown, M. & Quay, J. (2017). The Evolution of Experiential Learning Theory: Tracing Lines of Research in the JEE. *Journal of Experiential Education* 2017, Vol. 40(4) NP1–NP21 *
> This essay introduces a collection of past articles from the Journal of Experiential Education (JEE) focused on the concept of experiential learning. It outlines the historical trajectory of the concept beginning with human relations training practices beginning in 1946, as it came to be understood as a naturally occurring psychological process and a grounding for pedagogical reforms. The eight articles included in the issue reflect the way JEE authors have contended with problems arising from the concept's departure from its origins in practice. We suggest that experiential learning's evolution into a general theory was accomplished by decoupling it from its roots in a particular social practice and ideology, and then focusing on the concept's technical problems. It is now important for researchers to revisit assumptions underpinning current theory and practice, situate research on experiential learning in wider practical and scholarly traditions, and develop new vocabularies concerning the relationship between experience and learning in educational programs.

Nabia Luqman Siddiquei & Ruhi Khalid (2018). The relationship between Personality Traits,

Learning Styles and Academic Performance of E-Learners. *Open Praxis,* vol. 10 issue 3, July–September 2018, pp. 249–263 (ISSN 2304-070X) *

>The rapid growth of e-learning has greatly influenced the educational system across the globe. Personality traits and learning styles are both likely to play considerable roles in influencing academic achievement of e-learners. Based on this foundation, a study was designed that attempts to establish the missing links between personality traits, learning styles, and academic performance of students enrolled in various e-learning courses. University students (N=144) completed the Big Five Inventory (BFI), Index of Learning Style (ILS) and reported their grade point average (GPA). One of the Big Five traits i.e. extraversion was positively related with all four learning styles whereas neuroticism was negatively related with all four learning styles. It has also been revealed that GPA was positively correlated with three personality traits and was negatively correlated with neuroticism. Similarly GPA was positively correlated with three learning styles. Finally, there were no significant differences in learning styles and personality traits of e-learners in terms of gender. Implications of these results are expected to help academics, managers, and policy makers for implementation of future e-learning strategies in Pakistan.

Singh, B. & Mishra, P. (2017). Process of Teaching and Learning: A Paradigm Shift. *International Journal of Education,* Issue June 2017, Vol. 7, UGC Approved Journal (S.No.63022) ISSN(Online):2347-4343, Web Presence: http://ijoe.vidyapublications.com *

>This is the necessity to secure the future of education. Therefore, the teacher is the role-hero that can do it by imparting the education through self-learning methods with the appropriate learning styles and speed of learner. Earlier it was believed that teaching and learning are teacher based/centred process, but after the change of perspectives, it became child oriented/focused. The teacher of today is not only a teacher; now he has become supporter, helper, partner and colleague of the learner. Therefore, the need of the time is to change the process of teaching and learning according to the needs of the learner with careful cultivation of experiences. The teacher in present era must create an environment of divergent thinking about research and teaching to find out the missing links between theory and practice to fulfil the gap which has always existed. It is a unique responsibility of teacher as a social reformer to satisfy the needs of not only societies but of a country. This research article emphasises on the innovative changes of the teaching and learning.

Howard Sisco Tina Kao (2018). Learning Style Preferences and Acculturation of Multicultural Students of the U.S. *Institute for Learning Styles Journal* ☐ Volume 1, Spring 2018 *

>The continual increase of culturally diverse student populations within institutions of higher education of the U.S. has accelerated the need to understand the effects of acculturation and learning style preferences. This is especially important for multicultural individuals, or those having internalized values and beliefs of two or more cultures. The purpose of this study was to assess acculturation and learning style preferences of multicultural students enrolled in a college course in the United States. Our results suggest the degree of acculturation of multicultural students to the American culture, as self-identified by the students, relate to preferences of certain learning styles. Our results also suggest the preference for specific learning styles of these acculturated students may impact academic performance.

Liv Helvik Skjaerven, Gunvor Gard, Antonia Gómez-Conesa & Daniel Catalan-Matamoros (2019): A vocabulary describing health-terms of movement quality – a phenomenological study of movement communication, Disability and Rehabilitation, DOI: 10.1080/09638288.2019.1585970 *

Purpose: The aim of the study was to develop a vocabulary targeting communication of health-terms of movement quality, establishing professional knowledge of a movement terminology usefull within rehabilitation. Methods: A phenomenological study design was chosen, inviting movement experts working in rehabilitation to describe movement observations when a change into more functional, health related ways of moving appeared in the rehabilitation processes. 15 physiotherapy experts were recruited, five from the field of neurology, primary health care and psychiatry. The informants had between 12-38 years of clinical practice, treating patients of all ages with a wide specter of diagnoses. Data collection followed a qualitative study design, of individual, in-depth interviews, based on a semistructured interview guide. The interviews were taped, transcribed and sent to the informants for validation. Data analysis followed recommendation of Giorgi, modified by Malterud. Ethical considerations were followed. Results: Data revealed a vocabulary, clustered in five themes, Biomechanical, Physiological, Psycho-sociocultural, Existential and Overarching perspective, 16 underlying categories and 122 descriptive health terms of movement quality. Conclusion: The study demonstrated a multi-perspective movement vocabulary of 122 health characteristic terms, developed to facilitate movement communication within the broad field of rehabilitation. The result calls for further research concerning a movement vocabulary.

Slentz J. E. (2017). *YES, YOU MAY TOUCH THE ART: NEW MEDIA INTERFACES AND RHETORICAL EXPERIENCE IN THE DIGITALLY INTERACTIVE MUSEUM*. PhD Thesis Department of English CASE WESTERN RESERVE UNIVERSITY *

New media technologies, particularly touchscreen interfaces, are playing a highly visible role in new exhibition practices within museums. Many museum studies scholars see the participatory experiences mediated by such technologies as potentially redefining relationships between the institution and the public by allowing museum visitors access to roles and discourses traditionally reserved for a cultural elite. In these pages, I employ rhetorician Gregory Clark's (2010) theory of rhetorical experience to investigate the claim by museum studies scholars that a "paradigm shift" is being enacted by digital technologies within museums. I show that digitally mediated experiences, particularly those facilitated by touch, can induce actions on the part of the visitor that shift their engagement in the museum from the private, solitary practices of viewing and interpretation, to the documented, public roles of educator, curator, researcher, and critic. I also show that the rhetorical nature the experiences that invite visitors to participate in such activities can effect changes in attitude and identity on the part of the visitor from visitor-as-spectator to visitor-as-co-producer. This qualitative study takes place in two public institutions with recent installations of groundbreaking exhibition technologies, the Cleveland Museum of Art, in Cleveland, Ohio, and the National Archives Museum in Washington, D.C. I use ethnographic methods, including participant observations and interviews, to identify what I term the "habits of interaction" afforded by the touchscreen interfaces in these hybrid spaces of physical and digital activity. Interrogating the integral

relationship between one's ability to take up new interpretive positions through participation in digitally mediated experiences and one's previously existing digital literacies, I closely examine the rhetorical experiences visitors engage in through interaction with touchscreen interfaces. Museum visitors interacting with these interfaces see themselves as actually "able to touch the art" and thus as active participants in the work of the museum. Such experiences can shift visitors' interpretive positions by persuading them to take up the roles of instructor, researcher, critic, and curator, which are traditionally reserved for the institution itself.

Carol A. Smathers, MS, MPH1; Theresa M. Ferrari, PhD2 (2018). Levels of Community Change: A Game to Teach About Policy, System, and Environment Change. *J Nutr Educ Behav*. 2018;50:311–314 *

Health promotion organizations increasingly encourage multilevel, multisector interventions, because such approaches can produce more widespread and sustainable impacts than individual behavior change efforts alone. Recognizing that educational games convey and reinforce knowledge,8,9 an interactive game was developed to help practitioners identify various PSE strategies, understand basic tenets of the SEM, and explore ways to initiate PSE changes. Feedback from 94% of 118 nutrition educators who engaged in the game (n = 111) supports the efficacy of thegame in meeting these objectives and points to the feasibility of its use with various groups.

Smith, K. L. & Rayfield, J. (2017). Student Teaching Changed Me: A Look at Kolb's Learning Style Inventory Scores Before and After the Student Teaching Experience. *Journal of Agricultural Education*, 58(1), 102-117. https://doi.org/10.5032/jae.2017.01102 *

Student teaching as the culminating experience of a teacher preparation program has been shown to be of great importance in the preparation of pre-service agricultural educators (Harlin, Roberts, Mowen, Edgar, & Briers, 2007; Roberts, Mowen, Edgar, Harlin, & Briers, 2007; Kitchel & Torres, 2006, 2007; Myers & Dyer, 2004). Kolb's Learning Style Inventory (KLSI) is an instrument designed to examine individual preference for learning in four learning modes: active experimentation (AE), reflective observation (RO), concrete experience (CE), and abstract conceptualization (AC). In addition, the KLSI examines learning preferences in the dimensions of grasping and transforming experience. This descriptive study examined the KLSI scores for two semesters of student teachers (N = 37) from Texas A&M University at both the beginning and end of their student teaching experience. Student teachers were observed as falling into all nine learning styles as indicated by Kolb and Kolb (2013) at both the beginning and end of the student teaching experience. Results indicated that there was wide range of changes in individual student teachers. Active experimentation was the learning mode showing the greatest amount of change among the population, and changes in the group were more apparent in the dimension of transforming experience than in grasping experience.

Peter Sommerauer & Oliver Müller (2018). AUGMENTED REALITY FOR TEACHING AND LEARNING – A LITERATURE REVIEW ON THEORETICAL AND EMPIRICAL FOUNDATIONS. Twenty-Sixth European Conference on Information Systems (ECIS2018), Portsmouth, UK, *

Augmented Reality (AR) based teaching and learning has evolved rapidly over the past years. Researchers have shown that AR has the potential to deliver persuasive learning experiences in formal teaching (e.g., in classrooms) and in informal learning environments (e.g., museums). However, comparatively little extant research is firmly grounded in learning theories and applies rigorous empirical methods to evaluate the effect of AR on learning performance. In order to build a cumulative body of knowledge on AR-based instructional design and its effectiveness, it is necessary to consolidate both the theoretical foundations of and empirical evidence for using AR for teaching and learning. Against this background we conducted a focused systematic literature review on theoretical and empirical foundations of AR in education. We identify theory-based design elements and empirical measures for developing and applying AR teaching and learning applications and consolidate them in a design framework.

SREENIDHI S K1, TAY CHINYI HELENA (2017). Styles of Learning Based on the Research of Fernald, Keller, Orton, Gillingham, Stillman , Montessori and Neil D Fleming. *INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD* ISSN – 2455-0620 Volume - 3, Issue – 4 *

> This article helps the readers to understand the different learning styles like visual, auditory and kinesthetic, based on the research work of Fernald, Keller, Orton, Gillingham, Stillman , Montessori and Neil D Fleming. Learning styles are different approaches or ways of learning. Most people would have a preference to identifiable method of interacting with, taking in, and processing information. It involves personalizing the educating methods, particular to an individual that are presumed to allow that individual to learn best.   This article explains the importance of Based individualized "learning styles" that originated in the 1970s. Learning styles are influenced by many factors such as individual experience, different intelligences and personality factors such as a preference for learning alone or in a group. Our learning style will influence how we cope with regular tasks in our life such as reading a map, reading book, a project plan etc. This article throws lights on the usage of this concept by students and adults to understand their learning style and use this knowledge to their advantage in order to excel in their life.

Song, Y. (2018). Improving primary students' collaborative problem solving competency in project-based science learning with productive failure instructional design in a seamless learning environment. *Educational Technology Research and Development* (2018) 66:979–1008 https://doi.org/10.1007/s11423-018-9600-3(0123456789().,-volV)(0123456789().,-volV) *

> The paper reports on an empirical study adopting a mixed research method, aiming at improving primary students' collaborative problem solving competency in project-based learning with productive failure (PF) instructional design in a seamless learning environment. Two Grade Six classes participated in a project-based learning of ''Plant Adaptations''. In Class 1 with 27 students, the project-based learning was conducted with PF instructional design; in Class 2 with 26 students, the project-based learning was conducted without PF instructional design. The learning activities spanned across farm, class, home and online spaces supported by mobile devices. Data collection includes various students' created artifacts in groups in the inquiry process, student reflections,

student focus group interviews and pre- and post-domain tests. Both qualitative and quantitative data analysis methods were employed. The research findings show that compared to Class 2, the students in Class 1 gained deeper understanding of conceptual knowledge and produced better group artifacts in collaborative problem-solving quality than those in Class 2; and the students in Class 1 were more positive in facing the challenges in their project-based learning process, and developed a sense of ownership of their learning. The findings imply that PF instructional design is conducive to developing primary students' collaborative solving competency in science learning in a seamless learning environment.

Stander et al. (2019). Learning styles of physiotherapists: a systematic scoping review *BMC Medical Education* (2019) 19:2 https://doi.org/10.1186/s12909-018-1434-5 *

Background: Understanding students' learning styles, and modifying teaching styles and material accordingly, is an essential to delivering quality education. Knowing more about the learning styles of physiotherapy learners will assist educators' planning and delivering of learning activities. The purpose of this scoping review was to explore what is published about physiotherapy learning styles. Methods: An adapted Arksey and O'Malley framework was applied to undertake this systematic scoping review. Nine electronic databases (CINAHL, BIOMED CENTRAL, Cochrane, Web of Science, PROQUEST, PubMed, OTseeker, Scopus, ERIC) were searched using the keywords: 'learning styles' and 'physiotherapy'. English-language, primary research articles that investigated physiotherapy learners' learning styles were sought. Results: Of 396 potentially-relevant articles, 15 were included in this review. The studies mostly reflected undergraduate students (910 undergraduates, 361 postgraduates, 23 professionals), in developed countries. Nine articles used the Kolb's experiential learning theory (ELT); one study applied Honey and Mumford's approach; two studies used the Gregorc model of cognition and three studies did not specify an underlying theory. Outcome measures included different versions of Kolb's Learning Style Inventory, the visual-aural-read/write-kinesthetic questionnaire, Gregorc style delineator, Felder Silverman's Index of Learning Survey, and Honey and Mumford's Learning Style Questionnaire. The preferred physiotherapy learning styles, according to the ELT, seem to be Converger (learns "hands-on" and applying previously attained knowledge) and Assimilator (gathers and organises information to make the most sense). Conclusions: Both physiotherapy learners and physiotherapists have specific learning styles of active participation, underpinned with practical examples of theoretical concepts. More research is needed in developing countries, and on postgraduate and professional physiotherapy learners' learning styles. Also, further research should focus on defining and describing physiotherapy learning styles in a way to be used as an industry standard; and developing valid and reliable learning style outcome measures applicable across physiotherapy learners and settings.

Cherry Stewart & Matt Bower (2019): Novice online educator conceptual frameworks: a mental model exploration of mindful learning design, *Educational Media International*, DOI: 10.1080/09523987.2019.1583463 *

This research study explores the relationship between the socio-cognitive concept of mindfulness and university educators'

learning design conceptualisations. The multi-method
research strategy utilises a concept-mapping exercise to reveal
learning designer mental models for comparison with Langer
Mindfulness Scale scores and critical event interviews to
further illuminate the conceptualisations and factors that
impact educators' thinking when designing online units.
Research participants were asked to create a concept map of
their learning design and to be mindful of concepts incorporated
into a Graduate Certificate of Tertiary Education. The
analysis highlights some congruence between educators'
mindfulness dimensions and their learning design conceptual
frameworks. The mindfulness scores appear to indicate
a propensity to be more mindful in designing curriculum, as
indicated by participant concept maps, yet not necessarily
towards the adaptive use of technology or learner/activitybased
pedagogies. The authors suggest metacognitive strategies
to encourage learning design reconceptualization.

Stock, K. L., Bucar, B. & Vokoun, J. (2017). Walking in Another's Shoes: Enhancing
Experiential Learning Through Design Thinking. *Management Teaching Review* 1-8*
> There exists an "innovation gap" where students are not prepared to meet the demands
> of an increasingly complex world. Skills such as creative confidence help close this gap
> and also foster innovation. To better prepare students, two concepts, design thinking
> and experiential learning, are integrated through the use of a modified writing exercise.
> This exercise is intended to be used following a learning experience such as hearing
> a guest speaker, touring a business, or engaging with professionals on a project as a
> means of fostering deeper learning and building skills needed to work creatively.

Supramaniam et al.(2018). Didactic lectures versus simulation training:
a randomised pilot evaluation of its impact on surgical skill *Gynecological Surgery* 15:21
https://doi.org/10.1186/s10397-018-1053-5 *
> Background: The Bristol enquiry and national surveys have highlighted medicolegal
> concerns, reduction in training time available for trainees and the change from trainees
> performing procedures for the first time on patients. The Royal Colleges have taken an
> active role in advocating the use of simulation training prior to doctors undertaking
> operative procedures in real time. This study compares didactic lecture-based teaching to
> simulation training using a quantitative assessment tool. Method: Randomised pilot study
> including 20 trainees within their first and second year of Obstetrics and Gynaecology
> training. The participants were randomised to one of two groups. Group A were taken
> through the 10 steps to perform a diagnostic laparoscopy with a lecture, followed by an
> assessment using a laparoscopic pelvic box trainer. Group B were given the same didactic
> lecture, followed by simulation training in a dry lab, prior to undergoing the same
> assessment as group A. Findings: The study demonstrates a statistically significant
> improvement in the overall OSATS score for trainees undertaking a hands-on simulation
> training session prior to completing the diagnostic laparoscopy assessment (p=0.023).

Conclusions: This study clearly demonstrates that exposure to simulation training is superior compared to didactic lecture based teaching for the acquisition of surgical skills.

Joachim Svärd, J. (2018). Connecting Authentic Innovation Activities to the Design Process. https://www.researchgate.net/publication/325987673 *

Although history is full of inventors and innovations, principles underpinning the design (or innovation) process were only first described in the 1960's and 1970's. Beckman and Barry (2007) connect the design process to learning by experience, a process linked to experiential learning, and a forerunner of authentic learning. This study concerns an authentic innovation project, in which 13 groups of upper secondary school students (aged 16–17 years) solved real-world problems of their choice. The five-week innovation project offered students possibilities to think, design, discuss and reflect. The specific aim of this study is to present and analyse the activities that took place at different stages of the innovation/design process by posing the following research question: Do the students taking part in the innovation project engage one or more phases of the design process? Our results suggest that students with little or no previous experience of innovating or designing, not only solve the tasks they set out to solve, but also do so in a manner that mimics the way a trained inventor might work. These observations are closely associated with the learning models described by Beckman and Barry, and have implications for the teaching of design and innovation processes.

T

Jodi L. Tangen (2018) Learning styles and supervision: A critical review, *The Clinical Supervisor,* 37:2, 241-256, DOI: 10.1080/07325223.2017.1388897 *

Attending to supervisees' learning styles is a noted component of supervision best practices. However, the extant literature on learning styles is complex and controversial, leaving supervisors with little direction on whether or not—or how—to use them. In the following critical review, the literature on learning styles is reviewed and discussed, and recommendations for supervision practice and future research are provided

Takeda, Y. (2017). Tacit knowing in motion: Learning process in Korean traditional performing arts – new socio-technological contexts. *Social Science Information* 2017, Vol. 56(2) 284 –308 DOI: 10.1177/0539018417694771 *

This article aims to explore the present state of tacit knowing of expertized motion that has been passed along from generation to generation in the learning process of Korean traditional performing arts. The current status of, and changes in, the learning process were observed in a questionnaire survey, and the effects of the use of motion-capture technology were examined in an experimental class. In the learning process of Korean traditional performing arts, active feedback loops exist and have been strengthened in which the learners monitor external information and reflect it with language, sensory images and somatic feelings through instructed and imitative learning. Although the

traditional apprenticeship style of situated learning has tended to diminish, the learners are expanding their social networks beyond the boundaries of discipline and specialty. In the trial applying motion-capture technology, when imitative learning was partially substituted by instructive learning with visual expression and language, the students became sensitive to differences between the ideal motion and their actual performance. Motion-capture technology also provides new means of imitative learning with computer models. Emerging technologies will provide new opportunities to support tacit knowing in motion.

Tan et al. (2018), The effect of using games in teaching conservation. *PeerJ* 6:e4509; DOI 10.7717/peerj.4509 *

Games are an increasingly popular approach for conservation teaching. However, we know little about the effectiveness of the games on students' experiences and knowledge acquisition. Many current games are supplemental games (SG) that have no meaningful interaction with the subject matter. We adapted the experiential gaming (EG) model where students were immersed in goalorientated tasks found in real-life situations, and they tackled questions to complete actions for their main task. Classroom-based games were created for eight different conservation topics for an annual Wildlife Conservation Course and an annual Diploma in International Wildlife Conservation Practice. Data were collected over two cycles, a total sample size of 55 multinational students. We used a combination of repeated-measures design and counterbalanced measures design; each student was subjected at least twice to each of the EG and didactic instruction (DI) treatments, and at least once to the SG approach. We compared students' perception, learning and behavioural responses to the treatments, including measures of student personality types and learning styles as explanatory variables. Findings revealed multiple benefits of the classroom EG compared to the DI approach, such as increased attention retention, increased engagement and added intrinsic motivation. The improved level of intrinsic motivation was mainly facilitated by increased social bonding between participants. Further, we show that this EG approach appeals to a wide range of learning styles and personalities. The performance of SG was generally intermediate between that of EG and DI. We propose EG as a beneficial complement to traditional classroom teaching and current gamified classes for conservation education.

Tangen, J. L. (2017): Learning styles and supervision: A critical review, *The Clinical Supervisor,* DOI: 10.1080/07325223.2017.1388897 *

Attending to supervisees' learning styles is a noted component of supervision best practices. However, the extant literature on learning styles is complex and controversial, leaving supervisors with little direction on whether or not—or how—to use them. In the following critical review, the literature on learning styles is reviewed and discussed, and recommendations for supervision practice and future research are provided.

Tews M. J. Tews & Noeb, R. A. (2017). Does training have to be fun? A review and conceptual model of the role of fun in workplace training. *Human Resource Management Review* https://doi/10.10/jhrmr.2017.11.003 *

> The role of fun features in training has yet to be systematically examined from an academic perspective. The purpose of this paper is to aid academic research and training practice by addressing four important issues. First, we discuss the meaning of fun in the context of workplace training. Second, we review and critique the existing research on fun features in training. Third, based on Kahn's (1990) theory of psychological engagement, we propose a conceptual model to guide research to help increase our understanding of the role of fun features in training. Fourth, we discuss opportunities for future research as well as practical implications and caveats. Our intent is to provide a stronger theoretical basis for understanding and researching fun features in training and to provide more nuanced guidance for training practice.

THOMAS, N. K. et.al. (2018). EXPERIENTIAL ORGANIZING: PURSUING RELATIONAL AND BUREAUCRATIC GOALS THROUGH SYMBOLICALLY AND EXPERIENTIALLY ORIENTED WORK *Academy of Management Review.* 2018, Vol. 43, No. 4, 749–771. https://doi.org/10.5465/amr.2016.0348 *

> Current scholarship on organizational practices that foster a sense of care and collaboration in work relationships has yet to fully account for the potential misalignment between the goals of a given practice and how it is actually experienced. To address this issue, we develop a theoretical framework of experiential organizing, which we define as an iterative process through which positive relational and bureaucratic goals of a practice are pursued via symbolically and experientially oriented work. We offer theory to explain how organizations move through the experiential organizing process, what different types of work are required, and how the different parts of the process inform each other. Experiential organizing offers a holistic approach for organizations to overcome issues of misalignment, thereby mitigating negative outcomes and ensuring that symbolic structures have the intended impact on employee experience.

Thoring, K., Desmet, P & Badke-Schaub, P. (2018) Creative environments for design education and practice: A typology of creative spaces. *Design Studies* 56 (2018) 54e83 https://doi.org/10.1016/j.destud.2018.02.001 *

> This article presents a typology of creative spaces that is relevant to facilitating creative working and learning processes for designers. Drawing on qualitative user research with cultural probes in a design thinking institution, this typology identifies five different types of creative spaces along with five related spatial qualities. The paper suggests characteristics and criteria for each type and quality and summarizes the results in a framework. A second study in a practitioner's context validated these findings. The work presented in this article contributes to a better understanding of the impact of the built environment for creative design in education and practice and might inspire designers and educators to improve the design of their work environments

Torres, S. M. (2017). Patterns of Similarities between the Learning Style Inventory (LSI) and the Productivity Environmental Survey (PEPS). *Institute for Learning Styles Journal* • Volume 1, Page 8-23 *

    The purpose of this study was to determine if a relationship exists between the Learning Style Inventory (LSI) developed by Kolb (2000), and the Productivity Environmental Preferences Survey (PEPS) developed by Dunn, Dunn, and Price (2003). These two (2) inventories are used to determine individuals' preferences in learning. To understand this relationship results from studies conducted by Maldonado Torres (2011, 2014, 2016) were used. A correlation was found between seven of the elements of the PEPS and the Kolb modalities of learning. The PEPS element of Tactile correlated negatively with the Kolb Reflective Observation (RO) modality of learning ($r = -.181$, $p = .006$). Late Morning ($r = .115$, $p =.20$) positively correlated with the Abstract Conceptualization (AC) modality of learning. Four of the elements on the PEPS-Persistence ($r = .161$, $p = .015$), Structure ($r = .144$, $p = .030$), Alone ($r = .158$, $p = .017$), and Kinesthetic ($r = .134$, $p = .043$) positively correlated with the Active Experimentation (AE) learning modality.

Tricio, J. et.al. (2018). Student experiences of two small group learning-teaching formats: Seminar and fishbowl. *Eur J Dent Educ*. 2019;1–8. wileyonlinelibrary.com/journal/eje *

    Introduction: As teaching strategies, the seminar and fishbowl approaches promote active learning and shift the focus from the teacher to the learner. The aim of this study was to compare the self-reported perceptions of each student-centred teaching technique amongst a group of dental students as well as resultant quiz scores after each teaching technique.

    Material and Methods: During the first semester of 2017, all year-3 (N = 88) Semiology and year-5 (N = 71) Oral Surgery students participated in weekly seminars in which teams of students from both cohorts were given an actual clinical case to study; a diagnosis and treatment plan would be rendered, and an oral case presentation would be presented to the rest of the class. In the second semester, the same students tried to solve similar clinical cases using the fishbowl training format. A course coordinator provided final feedback, and the session culminated with a quiz. Students were invited to provide quantitative and qualitative perceptions whilst quiz scores obtained during seminar and fishbowl teaching formats were compared.

    Results and Discussion: A total of 97 (61%) seminar and 92 (58%) fishbowl students provided insights regarding these teaching techniques. Both cohorts believed the fishbowl format allowed them to be actively involved. However, only year-3 students gave the fishbowl format a significantly higher score than the seminar format, considering it an attractive format that allowed them to learn. In contrast, year-5 students believed the seminars met their expectations better than the fishbowl format. Interesting clinical cases as well as the final round of feedback were qualitative themes reported by both cohorts. The mean seminar and fishbowl quiz scores were statistically significant different for year-3 students ($P < 0.0001$), but not for year-5 students ($P = 0.09$).

    Conclusions: These findings suggest that a more structured small-group learningteaching format can be implemented for younger students whilst at the same time allowing more flexible organisation for senior students.

Dina Tsybulsky & Atar Oz (2019): From Frustration to Insights: Experiences,
Attitudes, and Pedagogical Practices of Preservice Science Teachers Implementing PBL in
Elementary School, *Journal of Science Teacher Education*.
https://doi.org/10.1080/1046560X.2018.1559560 *

>The current research is based on the phenomenological-qualitative
>paradigm. The goal was to examine the significant experiences,
>attitudes, and pedagogical practices of 17 Israeli student teachers in
>the science-teaching track regarding the use of project-based learning
>(PBL) as a pedagogical method, which they implemented in
>elementary schools during their practicum. During the first semester
>of the practicum, the student teachers were instructed to implement
>a PBL approach as part of their teaching assignment. During the
>second semester, they were instructed to teach the science lessons
>using any teaching method of their choice. Data were collected via
>in-depth interviews, reflective reports, lesson plans, and lesson observations,
>and analyzed using a qualitative content analysis method.
>Findings indicate that the quality of student-teachers' experiences
>changed throughout the practicum, from frustration and difficulty, to
>coping with and overcoming the difficulties, which led to a sense of
>success and satisfaction. Additionally, it was found that student
>teachers developed positive attitudes towards the principles of PBL
>pedagogy, as a result of their implementing a PBL approach earlier in
>the practicum. Finally, findings indicate that the experience of implementing
>PBL in the course of the teaching practicum is an important
>step, which led science student-teachers to experience success and
>satisfaction, develop positive attitudes towards student-centered,
>inquiry-based learning, and adopt several principles and aspects of
>PBL pedagogy in their pedagogical practices.

M. Christy Tull (2019). Out-of-Classroom Experience: Judicial Education's Use of Experiential
Learning Opportunities. Unpublished judicial education paper. *

>The "experiential learning theory" by David Kolb is a seminal work upon which much of
>judicial education is based in North America (NASJE, 2012). It is also a key theory that
>informs the delivery of judicial education in many nations involved with the International
>Organization of Judicial Training, including Latin American countries.

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V

van den Berg, M. (2018). Low-tech or high-tech? Relative learning benefits of serious games
for construction supply chain management. https://www.researchgate.net/publication/324573823
*

Serious games can enhance supply chain education regardless of their delivery format being either a low-tech (analogue) or high-tech (digital) game. There is nevertheless a lack of serious games for construction supply chain management and the relative learning benefits of both types of games remain poorly understood. As studying, deploying and developing such games also demand specific resources and efforts, researchers, educators and game designers need to weigh their preferences for either a low-tech or high-tech serious game. To provide input for such decisions, this paper first develops a high-tech game for construction supply chain management based on an existing low-tech version. Through reflecting on the use of both of these variants in an exploratory experiment with 43 PhD candidates, it is concluded that learning benefits of low-tech and high-tech serious games for construction supply chain management are comparable. These insights can help researchers, educators and game designers in selecting the most appropriate type of serious game to enhance (construction related) supply chain education.

van Laere, J. & Lindblom, J. (2018) Cultivating a longitudinal learning process through recurring crisis management training exercises in twelve Swedish municipalities. *J Contingencies and Crisis Management.* 2018;1–12. *

This study illustrates how crisis management capability is developed in series of recurring exercises, rather than in one single exercise. Over one hundred table-top and role-playing exercises were performed and evaluated in a longitudinal cross-case action research study in 12 Swedish municipalities. By consciously adapting training formats, municipalities were lead through three learning phases: obtaining role understanding (phase 1: knowing what to do), developing information management skills (phase 2: knowing how to do it), and mastering self-reflection in regular timeouts (phase 3: knowing when and why to do something). This final learning outcome, being able to concurrently execute, evaluate, and reorganize an ongoing crisis management performance, may be the most valuable capability of a crisis management organization when crisis strikes.

Verkuyl, M., Romaniuk, D., Atack, L., & Mastrilli, P. (2017). Virtual Gaming Simulation for Nursing Education: An Experiment. *Clinical Simulation in Nursing*, 13(5), 238-244.

Background. Increasingly, simulation is replacing some clinical hours as nursing schools struggle to find quality clinical placements for students.

Methods. An experimental study was conducted to compare a virtual gaming simulation with a laboratory simulation regarding three outcomes: students' pediatric knowledge, self-efficacy, and satisfaction.

Results. Both groups made modest knowledge gains. They made significant gains in self-efficacy scores with the gaming group making greater gains. Satisfaction survey scores were high for both groups.

Conclusions. Virtual gaming simulation combined with hands-on simulation could become part of the suite of best teaching and learning practices we offer students.

De Villiers, R.,Hess, A., East, T. & Crawford, S. (2018) Concepts of Teaching Excellence in

International Tertiary Education: Teachers as Agile Enablers. *Journal of International Business Education* 13: 5-32. *

Abstract. In the highly competitive field of international business education, researchers aim to identify, measure and develop teaching excellence to enhance institutional reputations and increase enrolments. Empirical data is needed to improve teacher recruitment and development, in order to attract and retain international students. This study is based on four English-speaking countries' award-winning teaching portfolios, consisting of more than 2500 pages of journaling and essays in four continents over four years. QSR-NVivo software is used to facilitate a grounded theory approach. The aim is to improve understanding of the constructs of teaching excellence. Criteria for promotion decisions are well established in many tertiary educational institutions, meaning that they tend not to pursue further development of these criteria. This study aims to show how to improve teaching quality in business education, contribute to the scholarship of effective andragogy, and help educators to prepare tomorrow's business leaders. This study may help those looking for a systematic and in-depth understanding of education and the training of educators. We also present a new theoretical model for thinking about tertiary educators' strategies and tactics to ensure effective teaching.

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Fumei Weng, F. (2019). The Influence of Learning Style on Learning Attitude with Multimedia Teaching Materials. *EURASIA Journal of Mathematics, Science and Technology Education*, 2019, 15(1), em1659 ISSN:1305-8223 (online) https://doi.org/10.29333/ejmste/100389 *

The aim of this study is to discover the influence of multimedia materials of Taekwondo Aerobic on students' learning attitude with diverse learning styles. Taekwondo Aerobic class is a new subject for junior high school teachers in Taiwan. The junior high school students are promoted to learn this activity to improve their health. With the advance of digital technology, multimedia-based teaching style has been emphasized and applied. Not every student handles the material well and their learning styles also influence their learning achievement. Participants were students on grade seventh and eighth. Students are divided into two groups, with one experiment group adopting multimedia-based teaching, and one control group adopting traditional teaching respectively. Students are given questionnaires after the experiment. There were 101 valid questionnaires. The results show that adopting multimedia-based teaching style promotes students' learning attitude. Using multimedia-based teaching style has significant effects on students' learning attitude with different learning styles in teaching Taekwondo Aerobic

Indah WIDIASTUTI & Cucuk W. BUDIYANTO. (2019). Applying an Experiential Learning Cycle with the Aid of Finite ElementmAnalysis in Engineering Education. *Journal of Turkish Science Education*. 15(Special Issue), 97-103 *

To enhance student's understanding of basic engineering concepts, engineering education should include more active learning in its curricula. This article purposed to develop an active learning module for mechanical engineering students through a commercial finite

element package. Kolb Learning Cycle was employed as the fundamental pedagogic of the module. This paper outlined how Kolb's theory of the experiential learning was used to improve a learning module for 'Heat Transfer' course in mechanical engineering education. This model, which covered three topics (steady state heat conduction, transient heat conduction and thermal stress), briefly summarized, and reviewed Kolb's stages of the experiential learning. A commercial finite element software was choosen to facilitate students' understanding of difficult mathematical concepts. Each stage of the learning module was highlighted. Recommendations were made for future evaluation and research.

Hendrik Wilhelm, Andreas W. Richter, Thorsten Semrau (2019) Employee Learning from Failure: A Team-as-Resource Perspective. *Organization Science*n Articles in Advance 03 May 2019. https://doi.org/10.1287/orsc.2018.1255 *

> Whether, and to what extent, employees learn from their failure experiences remains an unresolved issue for practitioners and scholars alike. On the one hand, failure provides individuals with opportunities for learning, whereas on the other hand, failure can also trigger defensive reactions that stifle learning. The present study expands experiential learning theories by incorporating the social context, thus offering a more comprehensive understanding of employee learning from failure. Specifically, we propose that team contexts that are psychologically safe and exhibit a well-developed transactive memory system provide important socioemotional and informational resources, enabling individual employees to seize the learning opportunities inherent in failure. Analysis of archival data on individual failure and subsequent performance in the domain of workplace creativity from 218 employees working in 42 teams supports our hypotheses. Employees are more likely to learn from their failure experiences if they work in teams with medium-to-high levels of psychological safety. Under these conditions, individual learning from failure is further stimulated by a well-developed transactive memory system. Our results also demonstrate the behavioral pathway linking failure experiences to subsequent outcomes. Interview data from 28 employees further illustrate the processes underlying these findings.

Woods, J., Mazur, N. & Gales J. (2017). TEACHING THE FUNDAMENTALS OF CIVIL ENGINEERING MATERIALS THROUGH EXPERIENTIAL LEARNING. Proc. 2017 Canadian Engineering Education Association (CEEA17) Conf. CEEA17; Paper 029 University of Toronto; June 4 – 7, 2017*

> This study presents an overview of a civil engineering materials course curriculum at Carleton University developed by the authors. The curriculum aims to move away from traditional civil engineering materials courses, which focus heavily on concepts related to material science, and instead concentrate on concepts that are more relevant to today's practicing civil engineers. The rationale, application, and analysis of the integration of these concepts through an advanced application of case-based and experiential learning is discussed. Central to this new course curriculum is a hands-on experiential learning activity on the construction and experimental testing of reinforced concrete beam specimens in lab sections of approximately 25 students. The goal of the lab is to provide students with a hands-on learning experience and use this as a tool to cover advanced topics related to civil engineering; for example, environmental sustainability and

resilience. The assessment of the students' understanding of the concepts taught in class were performed through the use of an anonymous questionnaire distributed at the end of the course and through traditional examination and assignments. Results of the survey were compared between classes who engaged in the advanced experiential learning laboratory and those who did not. The results demonstrate that after introducing experiential learning into the course curriculum, students were more likely to form an educated opinion on the potential sustainability of a material. Experiential learning is shown to be a valuable tool for engineering education that, when used efficiently, can seamlessly incorporate newly emerging engineering concepts to ensure that graduating students are equipped with the knowledge and tools they require to be competitive in the job market. The relation of the course to contemporary accreditation of Graduate attributes is discussed at length along with critical information regarding the effectiveness of balancing student engagement in STEM subjects.

Derek Wright, D. (2018). TACKLING KIRKPATRICK: CREATING AND IMPROVING A FIRSTYEAR ELECTROMAGNETICS ACTIVITY. Proc. 2018 Canadian Engineering Education Association (CEEA-ACEG18) Conf. CEEA18; Paper 046 University of British Columbia; June 3 – 6, 2018 *

At the University of Waterloo, 1B electrical
and computer engineering students participate in a series
of hands-on, open-ended design activities. In particular, a
wind-your-own motor activity has been trialed on four
occasions. The activity is widely recognized as being fun,
but are the students designing or kludging? The
Kirkpatrick Model of Training Evaluation was used as a
framework to assess student perceptions of the activity
and to guide focus group discussions. The activity was
iteratively improved to maintain a positive reaction while
increasing student learning.

Wei Wu and Yupeng Luo (2018). Technological and Social Dimensions of Engaging Lower Division Undergraduate Construction Management and Engineering Students with Experiential and Project Based Learning. Construction Research Congress 2018Downloaded from ascelibrary.org by University of Florida. *

Technology is playing an essential role in both academia and the professional communities of today's construction industry. It has become a critical constituent of college construction management (CM) curricula to expose students to emerging technology and develop their technological competencies, i.e., knowledge, skills, and abilities (KSAs). The goal is to cultivate a workforce that is better prepared to perform job tasks and deal with technological challenges anticipated in a rapidly transforming industry environment that is characterized with building information modeling (BIM), lean construction, sustainability, and other important trends. This research investigated effective pedagogical approaches and experimented with experiential and project based learning (E+PBL) in an entry level construction graphics course to engage lower-division undergraduate CM students in learning BIM with educational technology scaffold including cloud-based project collaboration

tools and learning management systems. Noticeably, service-learning ingredients were incorporated to allow concurrent examination of social dimensions in CM education to instill a culture of professional responsibility and civic engagement. This uniquely blended technological and social context became a facilitator to enhance student learning outcomes (SLOs) in teamwork, collaboration, communication, and leadership, which are deemed as essential social competencies of the CM workforce. This paper presents the pedagogical design and instructional practices of E+PBL and discusses findings of the assessment of student learning engagement using well established metrics. This research is a pilot and cornerstone to a full-fledged student learning engagement framework built upon digital education and learning technology.

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Yamazaki, Y. et.al. (2018). Exploring How Learning Style Relates to General and Career Management Self-Efficacy Beliefs in a Managerial Context.
https://doi.org/10.1080/15416518.2018.1528859

> This study examined how learning style relates to self-efficacy beliefs in a managerial context. To make a theoretical frame, the study relied on Kolb's experiential learning theory and a model of self-efficacy–performance relationship proposed by Gist and Mitchell. The study analyzed not only general efficacy but also specific efficacy focused on career management. Participants of this study consisted of 235 managers who worked for the Ministry of Finance in Indonesia. Results showed that managers' learning orientation towards abstract conceptualization over concrete experience was associated with increased self-efficacy beliefs, whereas an orientation towards active experimentation over reflective observation was associated with general self-efficacy development but had a marginal influence on career management self-efficacy. This study sheds light on a link between learning style and self-efficacy development in organizations. Based on the findings, the study offers theoretical and practical implications for leveraging learning styles and self-efficacy beliefs in organizations.

Yamazaki, Y. et.al. (2018). Cross-Cultural Differences in Learning Style and Learning Skills: A Comparison of Japan, Thailand, and the USA. : *Handbook of Research on Cross-Cultural Business Education.* DOI: 10.4018/978-1-5225-3776-2.ch008

> This chapter aimed to understand how learning style and learning skills differ among three countries—Japan, Thailand, and the United States—as viewed through Kolb's experiential learning theory. The study consisted of 300 undergraduates, with 100 freshmen from each country. Results indicated that Japanese students depended the most on a feeling mode rather than a thinking mode, followed by Thai students; Americans, in contrast, strongly preferred to learn from a thinking mode. Of the 12 learning skills analyzed, nine differed by both learning style (converging or diverging) and country, while three were affected only by country. Thais showed the highest level of most

learning skills, Americans were in the middle, and Japanese exhibited the lowest level of all 12 skills. A converging learning style influenced learning skill development more than a diverging learning style. This study offers theoretical and practical implications.

Wan-Hsuan Yen & Chi-Cheng Chang (2018). Attitude Toward Online Peer-Assessment Activity: Experiential Learning Theory Viewpoint. In T.-T. Wu et al. (Eds.): ICITL 2018, LNCS 11003, pp. 61–70, 2018. https://doi.org/10.1007/978-3-319-99737-7_6 *
> Kolb's Experiential Learning Theory (ELT) can help educators
> design learning activities with holistic view in mind. By understanding student's
> learning preference, educators may choose the methods that interest students
> most. From our study of 175 Taiwanese postgraduate students, 49.7% of them
> are assimilating (AS) type who learn best through reflection and conceptualization.
> Online peer-assessment activity is found to be preferred in attitude by
> AS type students over diverging (DI) type. As a result, the utilization of seminars
> with online peer-assessment can provide real world simulation and may
> interest the majority of postgraduate students. The implication of using ELT in
> learning activity design is also discussed.

Young, M. (2019). Reflection fosters deep learning: The 'reflection page & relevant to you' intervention. *Journal of Instructional Pedagogies* Volume 20 *
> Cognitive science indicates that the millennial generation's behavior of instant messaging
> and multitasking may provide inadequate cognitive capabilities for thoughtful processing
> of experiences that lead to deep learning. This study describes a teaching innovation that
> explicitly stimulates reflection and critical self-assessment, along with guidelines for
> deployment in order to address the 'thinking' aspect of experiential learning. Two years
> of data provided a sample size of 214 traditional undergraduates that assessed the
> reflection intervention. Path Analysis examined the theoretical relationships between
> reflection within Kolb's (1984) Experiential Learning Theory and Marton & Saljo's
> (1976) Student Approaches to Learning Theory. The empirical evidence supports these
> theories indicating that this reflection intervention fostered deep learning motivation and
> strategy usage leading to greater perceived learning. A significant relationship between
> the reflection intervention and exam performance was also produced. This reflection
> intervention provides an additional tool for educators to help ensure deep meaningful
> learning. In addition, this study adds empirical support for the learning theories on which
> most experiential-based pedagogies are based.

Yousafzai YM, Baseer N, Fatima S, Ali A. Changes in learning style preferences of postgraduates after entering a new learning environment. *J Ayub Med Coll* Abbottabad 2018;30(3):417–22. *
> Background: The aim of this study was to investigate whether the learning style
> preferences of post-graduate medical students change with time when they enter a new
> learning environment. The learning styles of post-graduate medical students from
> Pakistan were assessed on Kolb's Learning style inventory and prospectively monitored
> for any change when the students entered a degree program at the University of Glasgow.
> Methods: Medical doctors from Pakistan who joined post graduate program in Evidence

Based Medicine and Health Professions Education participated in the study. Kolb's learning style inventory was used to evaluate the learning preferences. Learning styles were evaluated twice in the study, in the first term of the course and then at the end, with a time span of 7 months. Results: The predominant learning style preferences of students were 'Assimilating' type, both at the beginning and at follow up. Some change in the learning style preferences of students was noted as 2/10 students moved to a different learning grid at follow-up. These results were assessed against gender, clinical and teaching experience using linear regression however no significant correlation was found. Conclusion: There was not enough evidence to suggest that learning style preferences of students change in a meaningful way after coming to a new learning environment. This study however, leads to a suggestion that further large sized longitudinal study should be done with enough statistical power to accept or reject the null hypothesis.

Chong Ho Yu, Hyun Seo Lee, Emily Lara & Siyan Gan (2019). Adult Learning Across USA, Canada, and New Zealand: A Cross-Cultural Study of PIAAC. *International Education Studies*; Vol. 12, No. 5; 2019 ISSN 1913-9020 E-ISSN 1913-9039 *

Skeptics of Programme for International Student Assessment (PISA) and Trend for International Math and Science Study (TIMSS) argue that while US elementary and high school students are behind their peers in other nations, the US workforce is still excellent because of the high quality post-secondary educational institutions in the US. However, the Programme for the International Assessment of Adult Competencies (PIAAC) indicates that US adults are in fact far behind their international peers in literacy, numeracy, and technology-based problem solving. Through the use of data mining, this study explored the possible association between PIAAC scores and several constructs. Since the US, Canada, and New Zealand were considered culturally similar nations, according to cluster analysis, patterns between PIAAC scores and selected constructs were analyzed by a variety of big data analytical methods, including cluster analysis, bootstrap forest, boosted tree, and data visualization. Given that PIAAC used multiple computerized adaptive testing, the consequential plausible values were randomly selected when the ensemble approach was used. Additionally, model comparison was utilized to decide between bagging and boosting in order to select the optimal model for each sample. In these samples, cultural engagement, readiness to learn, and social trust, respectively emerged as strong predictors for learning outcomes as they were assessed by PIAAC

Yuan, X., Dishan Song & Renke He (2018) Re-Examining 'Learning by Doing': Implications from Learning Style Migration, *The Design Journal*, 21:3, 313-330, DOI: 10.1080/14606925.2018.1444126

'Learning by doing' is taught in many design studio classes as a fundamental approach for novice designers. However, there is no consensus on how 'learning by doing' should be strategically applied in design classes. Many theoretical learning science models suggest that learning strategies change dynamically as students later enter their respective professions. The term 'learning by doing' in design education thus acquires different meanings for students at different professional levels, and this knowledge should be used to direct design instruction. Using Kolb's Learning Style Inventory, this study compares the undergraduate learning styles at different levels in Hunan University (HNU), over

three consecutive years by observing learning style migration patterns and discussing the implications of a 'learning by doing' strategy. The results indicate that there are two main types of 'learning by doing' for design students, both of which meet specific learning objectives for different professional levels.

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