Experiential Learning Theory Bibliography
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Prepared by Alice Kolb & David Kolb

The bibliography contains 321 selected references with abstracts on experiential learning theory from 2013-2014. 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

Abdool, M. A., & Bradley, D. (2013). Twelve tips to improve medical teaching rounds. *Medical Teacher, 35*(11), 895-899. doi: 10.3109/0142159x.2013.826788
> The ward round is the bread and butter of internal medicine. It forms the basis of clinical decision making and reviewing patients' progress. It is fundamental to the role of the internal medical physician. It allows for the review of the patients' notes, signs and symptoms, physiological parameters and investigation results. Most importantly, it allows for an interaction with the patient and their relatives and is a means of relating medical information back, answer queries and plan future medical management strategies. These should be integrated into the teaching round by a senior clinician so that time away from the bedside is also used to enhance the teaching and learning experience. Here, I would like to draw on my experience as a learner as well as an educator, together with the available literature, to draw up a simple 12-step teaching strategy that should help the ward round serve the dual purpose of teaching medical students and junior doctors.

Abdulwahed, M., & Nagy, Z. K. (2013). Developing the TriLab, a Triple Access Mode (Hands-On, Virtual, Remote) Laboratory, of a Process Control Rig Using LabVIEW and Joomla. *Computer Applications in Engineering Education, 21*(4), 614-626. doi: 10.1002/cae.20506

Laboratory education is a core part of engineering curricula; engineering students generally prefer to work on something real. The classical mode and the oldest form of laboratory education is the hands-on mode. Advances in information and communication technologies have contributed to the laboratory education by creating two new modes, the simulated (virtual) mode and the online controlled mode (remote). Recently, developments or utilizations of hybrid structures of two types (e.g., virtual and hands-on, or remote and hands-on) have been reported in the literature; however, until now there are no reports of hybrid structures of the three types together. This paper describes the technical development of a novel laboratory model that combines the three modes in one unifying software package, namely the TriLab, by using Laboratory Virtual Instrument Engineering Workbench (LabVIEW). It is shown that LabVIEW provides a single programming environment for developing all components of the TriLab. Furthermore, it is shown that the Joomla web content management system can be used as a solution for efficient deployment of a remote lab online portal on the top of the LabVIEW core software. The development of the TriLab using LabVIEW and Joomla for an Instrumentation and Control Engineering Laboratory rig is shown. The analysis of student survey is presented which has shown positive impact of the pedagogical utilization of the TriLab. This is the first paper which aims to provide engineering academics a generic architecture and software solutions to rapidly develop their own TriLab. (c) 2010 Wiley Periodicals, Inc. Comput Appl Eng Educ 21: 614-626, 2013

Acharya, S., Shukla, S., Acharya, N., Vagha, J., & Vagha, J. (2014). Role play–an eff ective tool to teach clinical medicine. *Journal of Contemporary Medical Education*, *2*(2), 91-96. *

Objective: This study was undertaken as an experimental effort to introduce role-play as a learning tool in teaching of clinical medicine, access its efficacy in understanding clinical scenarios and honing linguistic and examination skills through expression in medical students. The basic hypothesis was that, role-plays can guide the medical students in a better way by gaining knowledge and attitude to deal with real-life situations through simulation acts, so that they can apply this knowledge and skill gained through these simulations in practical examinations, as well as self-application in clinical practice. **Methods:** This experimental study with a single group pre- and post-test design was carried out in Datta Meghe Institute of Medical Sciences University (NAAC-A) and Jawaharlal Nehru Medical College, Wardha. Twenty-four final year MBBS students were selected for the study. All were subjected to a pre sensitization test in short case format covering affective, cognitive and psychomotor domains from cardiovascular, respiratory, and gastrointestinal system and marks were recorded. Later, the students were sensitized with role-plays of common clinical scenarios and all the role-plays were enacted. Finally, post sensitization test in the same short case format was conducted. Statistical method: student's paired t-test. **Results:** The post-sensitization scores in each domain were significantly better than the pre-sensitization scores, cognitive domain (95% confidence interval [CI]: -5.14 to -4.60; $P < 0.001$), affective domain (95% CI -3.26 to -2.65; $P < 0.001$), and psychomotor domain (955 CI -5.56 to -4.62; $P < 0.001$), respectively. **Conclusion:** Role-plays can be used as an extremely effective tool for teaching of clinical medicine.

Akl, E. A., Sackett, K. M., Erdley, W. S., Mustafa, R. A., Fiander, M., Gabriel, C., & Schunemann, H. (2013). Educational games for health professionals. *Cochrane Database of Systematic Reviews*(1). doi: 10.1002/14651858.CD006411.pub3

> Background The use of games as an educational strategy has the potential to improve health professionals' performance (e. g. adherence to standards of care) through improving their knowledge, skills and attitudes. Objectives The objective was to assess the effect of educational games on health professionals' performance, knowledge, skills, attitude and satisfaction, and on patient outcomes. Search methods We searched the following databases in January 2012: MEDLINE, AMED, CINAHL, Cochrane Central Database of Controlled Trials, EMBASE, EPOC Register, ERIC, Proquest Dissertations & Theses Database, and PsycINFO. Related reviews were sought in DARE and the above named databases. Database searches identified 1546 citations. We also screened the reference lists of included studies in relevant reviews, contacted authors of relevant papers and reviews, and searched ISI Web of Science for papers citing studies included in the review. These search methods identified an additional 62 unique citations for a total of 1608 for this update. Selection criteria We included randomized controlled trials (RCT), controlled clinical trials (CCT), controlled before and after (CBA) and interrupted time-series analysis (ITS). Study participants were qualified health professionals or in postgraduate training. The intervention was an educational game with "a form of competitive activity or sport played according to rules". Data collection and analysis Using a standardized data form we extracted data on methodological quality, participants, interventions and outcomes of interest that included patient outcomes, professional behavior (process of care outcomes), and professional's knowledge, skills, attitude and satisfaction. Main results The search strategy identified a total of 2079 unique citations. Out of 84 potentially eligible citations, we included two RCTs. The game evaluated in the first study used as a reinforcement technique, was based on the television game show "Family Feud" and focused on infection control. The study did not assess any patient or process of care outcomes. The group that was randomized to the game had statistically higher scores on the knowledge test (P = 0.02). The second study compared game-based learning ("Snakes and Ladders" board game) with traditional case-based learning of stroke prevention and management. The effect on knowledge was not statistically different between the two groups immediately and 3 months after the intervention. The level of reported enjoyment was higher in the game-based group. Authors' conclusions The findings of this systematic review neither confirm nor refute the utility of games as a teaching strategy for health professionals. There is a need for additional high-quality research to explore the impact of educational games on patient and performance outcomes.

Al-Dujaily, A., Kim, J., & Ryu, H. (2013). Am I Extravert or Introvert? Considering the Personality Effect Toward e-Learning System. *Educational Technology & Society, 16*(3), 14-27.*

> A concern of computer-based learning system design is how to accommodate learners' individual differences during learning activities. Previous research suggests that adaptive e-learning systems can effectively address such individual differences and, consequently, they enable more directed tutoring via computer-assisted instruction. In this paper, we explore this assertion, reflecting on the outcomes of two successive experiments that

were performed to empirically demonstrate that learners' personality traits might be significant in understanding differences in learning outcomes from using e-learning systems. One hundred and forty-five participants from Computer Science participated in this study. A two-by-two between-subjects factorial study was designed, where the personality traits derived from Myers-Briggs Type Indicator, and the two computer-based learning systems (adaptive vs. non-adaptive) are independent variables. The results suggested that the personality trait that could be indicative of preferred learning styles; in particular extraverted/introverted personal traits significantly influenced learning activity on adaptive e-learning system. A design guideline might be implicative of how the e-learning system suits the learner's personality trait.

Alexander, K., Belisle, M., Dallaire, S., Fernandez, N., & Doucet, M. (2013). Diagnostic Imaging Learning Resources Evaluated by Students and Recent Graduates. *Journal of Veterinary Medical Education, 40*(3), 252-263. doi: 10.3138/jvme.1212-112R1

> Many learning resources can help students develop the problem-solving abilities and clinical skills required for diagnostic imaging. This study explored veterinary students' perceptions of the usefulness of a variety of learning resources. Perceived resource usefulness was measured for different levels of students and for academic versus clinical preparation. Third-year (n=139) and final (fifth) year (n=105) students and recent graduates (n=56) completed questionnaires on perceived usefulness of each resource. Resources were grouped for comparison: abstract/low complexity (e.g., notes, multimedia presentations), abstract/high complexity (e.g., Web-based and film case repositories), concrete/low complexity (e.g., large-group clicker workshops), and concrete/high complexity (e.g., small-group interpretation workshops). Lower-level students considered abstract/low-complexity resources more useful for academic preparation and concrete resources more useful for clinical preparation. Higher-level students/recent graduates also considered abstract/low-complexity resources more useful for academic preparation. For all levels, lecture notes were considered highly useful. Multimedia slideshows were an interactive complement to notes. The usefulness of a Web-based case repository was limited by accessibility problems and difficulty. Traditional abstract/low-complexity resources were considered useful for more levels and contexts than expected. Concrete/high-complexity resources need to better represent clinical practice to be considered more useful for clinical preparation.

ALQahtani, D. A., & Al-Gahtani, S. M. (2014). Assessing Learning Styles of Saudi Dental Students Using Kolb's Learning Style Inventory. *Journal of dental education*, *78*(6), 927-933.

> Experiential learning theory (ELT), a theory developed by David Kolb that considers experience to be very important for learning, classifies learners into four categories: Divergers, Assimilators, Convergers, and Accommodators. Kolb used his Learning Style Inventory (LSI) to validate ELT. Knowing the learning styles of students facilitates their understanding of themselves and thereby increases teaching efficiency. Few studies have been conducted that investigate learning preferences of students in the field of dentistry. This study was designed to distinguish learning styles among Saudi dental students and interns utilizing Kolb's LSI. The survey had a response rate of 62 percent (424 of 685 dental students), but surveys with incomplete answers or errors were excluded, resulting in 291 usable surveys (42 percent of the student population). The independent variables

of this study were gender, clinical experience level, academic achievement as measured by grade point average (GPA), and specialty interest. The Diverging learning style was the dominant style among those in the sample. While the students preferred the Assimilating style during their early preclinical years, they preferred the Diverging style during their later clinical years. No associations were found between students' learning style and their gender, GPA, or specialty interest. Further research is needed to support these findings and demonstrate the impact of learning styles on dental students' learning.

Andreou, C., Papastavrou, E., & Merkouris, A. (2014). Learning styles and critical thinking relationship in baccalaureate nursing education: A systematic review. *Nurse education today*, *34*(3), 362-371.

Background: Critical thinking is a desirable competency for contemporary nurses although there are growing concerns supporting a disturbing paucity in its achievement. Learning styles reflect habitual behaviors which determine distinct preferences within learning situations. Evidence suggests that critical thinking could evolve through learning processes. Variances in critical thinking achievement by nursing students might therefore be influenced by individual learning preferences. The concepts "learning styles" and "critical thinking" have been independently examined in the nursing literature. No reviews were found however exploring their association in nursing education.
Objectives: To identify the potential relationships between learning styles and critical thinking in baccalaureate nursing students.
Design: Systematic review.
Data Sources: Eleven electronic databases were utilized without geographical and time publishing filters. Hand-searching journals and scanning references from retrieved studies were also performed.
Methods: Databases were searched for descriptive correlational studies which considered the relationship between learning styles and critical thinking in baccalaureate nursing students. The authors independently progressed three stage screening. Retrieved articles were reviewed at title, abstract and full text levels according to predetermined criteria. All included studies were quality appraised using a rating tool for descriptive studies.
Results: Six studies were finally included. Findings were grouped under four key themes: predominant learning styles, critical thinking scoring, critical thinking evolution across academic progress and learning styles–critical thinking correlations. Learning styles' diversities, weak critical thinking and inconsistent evolution through academic progress were revealed across studies. Critical thinking differed significantly between learning styles.
Conclusions: Commonly accepted models in nursing education were lacking in both learning styles and critical thinking. Within studies identical learning styles were found to be positively or negatively related to critical thinking. However comparative findings across studies revealed that all learning styles might be positive determinants toward critical thinking evolution, suggesting that there is a relationship between learning styles and critical thinking. Certain links between learning styles and critical thinking were supported in given settings and given nursing student populations. Further field exploration is required.

Angell, C., & Taylor, A. M. (2013). Alien knowledge: Preparing student midwives for learning about infant feeding-Education practice at a UK university. *Nurse Education Today, 33*(11), 1411-1415. doi: 10.1016/j.nedt.2012.10.013

Infant feeding education forms a key element in undergraduate midwifery education in the UK. Students must be prepared to provide women with support and information to make appropriate health choices for themselves and their infants. However, student midwives may already have developed opinions about infant feeding prior to commencing a midwifery education programme. The education literature suggests that existing attitudes may present a barrier to learning for some students. This particularly applies to learning in relation to sensitive or emotionally laden subjects. A review of the literature was undertaken to identify potential teaching approaches which might help

students to overcome barriers to learning. Following this the evidence was utilised at a UK university to develop activities which prepare student midwives for effective learning around infant feeding. Students enrolled in the midwifery education programme were introduced to a number of activities aimed at encouraging them to accommodate unfamiliar ideas or 'alien knowledge'. These included placing students in situations which challenged their ideas, as well as engaging in group discussions and reflective exercises. The impact of these educational interventions was identified through formative and summative assessment, and through evaluation of the teaching strategy at the end of the programme. This demonstrated that, amongst those students with previously negative attitudes towards infant feeding, there was a move towards more positive attitudes and a greater confidence in providing evidence based information to parents.

Arends, J. (2014). The Role of Rationality in Transformative Education. *Journal of Transformative Education*, *12*(4), 356-367.

As scholars, we are responsible for examining the academic and pedagogical traditions from which our current approaches have developed. This includes the historical establishment of and reliance upon rationality which postmodernist scholarship argues unconsciously guides our educational motives and processes. Rationality is especially relevant to transformative education, as it constitutes the theoretical basis of reflection, the very bedrock of transformational learning. However, postmodernist scholarship criticizes rationality, as it falsely assumes the existence of universal truths; reflection may in fact undermine the very purpose of transformative learning reinforcing dominant paradigms and ways of thinking. This article sets forth the limitations seen as inherent in reflective practices within transformative education and offers alternative conceptualizations of rationality to provide possible directions forward. This is specifically relevant to the subfield of transformational service learning, an increasingly popular pedagogy in higher education today.

Arevalo, C. R., Bayne, S. C., Beeley, J. A., Brayshaw, C. J., Cox, M. J., Donaldson, N. H., . . . Schonwetter, D. J. (2013). Framework for E-Learning Assessment in Dental Education: A Global Model for the Future. *Journal of Dental Education, 77*(5), 564-575.

The framework presented in this article demonstrates strategies for a global approach to e-curricula in dental education by considering a collection of outcome assessment tools. By combining the outcomes for overall assessment, a global model for a pilot project that applies e-assessment tools to virtual learning environments (VLE), including haptics, is presented. Assessment strategies from two projects, HapTEL (Haptics in Technology Enhanced Learning) and UDENTE (Universal Dental E-learning), act as case-user studies that have helped develop the proposed global framework. They incorporate additional assessment tools and include evaluations from questionnaires and stakeholders' focus groups. These measure each of the factors affecting the classical teaching/learning theory framework as defined by Entwistle in a standardized manner. A mathematical combinatorial approach is proposed to join these results together as a global assessment. With the use of haptic-based simulation learning, exercises for tooth preparation

assessing enamel and dentine were compared to plastic teeth in manikins. Equivalence for student performance for haptic versus traditional preparation methods was established, thus establishing the validity of the haptic solution for performing these exercises. Further data collected from HapTEL are still being analyzed, and pilots are being conducted to validate the proposed test measures. Initial results have been encouraging, but clearly the need persists to develop additional e-assessment methods for new learning domains.

Arbaugh, J. B., Dearmond, S & Rau, B. L. (2013). New uses for existing tools? A call to study online management instruction and instructors. *AMLE* 12(4): 635-655*

> *We present this essay as a call to attract new scholars to the study of management learning and education. Using the context of on-line management instruction as an example, we identify areas where both established management education scholars and discipline-based management researchers may apply their considerable talents to a new arena. We support our call by identifying potential linkages to relatively well-researched themes in management education research and by presenting opportunities to discipline-based scholars through the lens of a framework commonly used in human resources management. We hope such linkages inspire scholars to consider how frameworks from their fields might be employed to study issues pertaining both to on-line management instruction in particular and to management learning and education generally.*

Arnab, S., Brown, K., Clarke, S., Dunwell, I., Lim, T., Suttie, N., . . . de Freitas, S. (2013). The development approach of a pedagogically-driven serious game to support Relationship and Sex Education (RSE) within a classroom setting. *Computers & Education, 69*, 15-30. doi: 10.1016/j.compedu.2013.06.013

> Didactic approaches to Relationships and Sex Education (RSE) have been shown to yield limited outcomes when compared to approaches that stimulate peer discussion and debate. Creating effective interventions, which stimulate peer involvement, remains a demanding task and finding a solution that is not only engaging but also pedagogically sound is vital. A case thus exists for exploring how game technology might facilitate more feasible solutions. This paper presents the development approach of a digital game: PR:EPARe (Positive Relationships: Eliminating Coercion and Pressure in Adolescent Relationships), designed by a cross-disciplinary team of UK researchers from Coventry University's Studies in Adolescent Sexual Health (SASH) research group and the Serious Games Institute (SGI). Psychological targets for game content were identified through Intervention Mapping (IM) and the game design process was based on the Four-Dimensional Framework of Learning (4DF) emphasizing the context of deployment, learner profiling and the pedagogical perspective that influence the mode of representation of the learning content. Early efficacy testing of the game solution was validated through a cluster-randomized controlled trial in local schools (n = 505) indicated some positive outcomes in favour of the game-based approach, based on self-reported measures of psycho-social preparedness for avoiding coercion (F [3, 501] = 15.306, p < 0.001, eta(2)(p) = 0.084). Analysis of observation data suggests that blending this interactive game-based approach with traditional classroom delivery encouraged the teachers and students to engage in communal discussions and debriefing during and after game play. Together, the results demonstrated real benefits for pedagogy-driven game-based approaches to support the delivery of RSE within a classroom setting.

Arpiainen, R. L., Lackeus, M., Taks, M., & Tynjala, P. (2013). THE SOURCES AND DYNAMICS OF EMOTIONS IN ENTREPRENEURSHIP EDUCATION LEARNING PROCESS. *Trames-Journal of the Humanities and Social Sciences, 17*(4), 331-346. doi: 10.3176/tr.2013.4.02

> The study investigates student experiences of entrepreneurship education and focuses on gaining a better understanding of the main sources of emotions as well as the role and dynamics of emotions in learning. Data was collected in three entrepreneurship education settings in Estonia, Finland and Namibia using in-depth interviews (N = 79) and was analysed using qualitative thematic analysis. As a result, three themes highlighting the main sources of emotions were identified: 1) new kind of learning environment, 2) collaborative learning, and 3) challenging tasks. The learning environment sub-categories were: 1a) uncertainty and confusion, 1b) theory versus practice and 1c) support from outside. The collaborative learning sub-categories consist of: 2a) teamwork, 2b) time pressure and 2c) individual differences. Challenging tasks had the sub-categories: 3a) overcoming knowledge and skills gaps, 3b) interacting with the outside world and 3c) leadership and managing people. In addition, dynamic patterns of emotions in the course of learning processes were identified.

Asselin, M. E., Schwartz-Barcott, D., & Osterman, P. A. (2013). Exploring reflection as a process embedded in experienced nurses' practice: a qualitative study. *Journal of Advanced Nursing, 69*(4), 905-914. doi: 10.1111/j.1365-2648.2012.06082.x $

> Aim This article is a report of a study aimed at obtaining an in-depth description of how experienced acute care staff nurses perceive and use reflection in clinical practice. Background Reflection is viewed as a critical component of professional practice. The basic assumption is that reflection involves a deliberate process of thinking about a clinical situation which leads to insight and a subsequent change in practice. Several prescriptive models for reflection exist to provide a guide for reflection, however, few are grounded from an empirical examination of reflection in practice. There is a dearth of empirical data on what is actually happening in practice. Design Descriptive, qualitative. Methods In-depth interviews with 12 experienced acute care staff nurses in a community hospital in Northeastern USA was used to address the study aims. Data were collected between November 2009May 2010. Results/findings Examples of reflection were embedded in patient situations needing immediate nursing intervention. Reflection was a process involving four phases: Framing of the Situation, Pausing, Engaging in Reflection, and Emerging Intentions. Conclusion Experienced nurses used a process of reflection-on-action in practice. They gained insight and formulated intentions for change in nursing practice. Structured facilitated reflection might assist nurses in achieving a depth of reflection necessary to move from their intentions to changes in practice.

Atif, Y. (2013). Conversational learning integration in technology enhanced classrooms. *Computers in Human Behavior, 29*(2), 416-423. doi: 10.1016/j.chb.2012.07.026

> Today's college students have grown up with technology. These digital natives typically gravitate toward group activities in technology embedded social contexts. However, despite this multidimensional evolution, little has changed in conventional classrooms where they build their education experience. We investigate learning models in a

classroom environment which still remains the main driver of education today. We describe a conversational learning model based on group activities which involve multi-party conversations. We implement this model in a technology-enhanced studio-classroom to "visualize" conversations which otherwise would remain abstract to learners. Teachers are empowered with instructional patterns to guide their changing role in this novel classroom environment. Based on standard assessment indicators, we conduct an experimental analysis which results show interesting tradeoffs of learning performance that favor the proposed conversational learning approach compared to those obtained from conventional instruction.

Azer, S. A., Guerrero, A. P. S., & Walsh, A. (2013). Enhancing learning approaches: Practical tips for students and teachers. *Medical Teacher, 35*(6), 433-443. doi: 10.3109/0142159x.2013.775413 *

Background: In an integrated curriculum such as problem-based learning (PBL), students need to develop a number of learning skills and competencies. These cannot be achieved through memorization of factual knowledge but rather through the development of a wide range of cognitive and noncognitive skills that enhance deep learning. Aim: The aim of this article is to provide students and teachers with learning approaches and learning strategies that enhance deep learning. Methods: We reviewed current literature in this area, explored current theories of learning, and used our experience with medical students in a number of universities to develop these tips. Results: Incorporating the methods described, we have developed 12 tips and organized them under three themes. These tips are (1) learn how to ask good questions, (2) use analogy, (3) construct mechanisms and concept maps, (4) join a peer-tutoring group, (5) develop critical thinking skills, (6) use self-reflection, (7) use appropriate range of learning resources, (8) ask for feedback, (9) apply knowledge learnt to new problems, (10) practice learning by using simulation, (11) learn by doing and service learning, and (12) learn from patients. Conclusions: Practicing each of these approaches by students and teachers and applying them in day-to-day learning/teaching activities are recommended for optimum performance.

B

Babnik, K., Širca, N. T., & Dermol, V. (2014). Individuals learning in work teams: support to knowledge management initiatives and an important source of organizational learning. *Procedia-social and behavioral sciences*, *124*, 178-185. *

The aim of the paper is to describe and explain the team-level determinants of learning behavior in work teams. Learning behavior is explained as an integral part of individual and organizational learning process and as an important part of knowledge management in organizations. The paper proposes that team's job characteristics (task variety, significance and identity), and team leadership (people and task oriented behaviors) have a positive contribution to the occurrence of learning behavior in work teams. The study performed in two Slovenian service organizations, on a sample of 105 employees - members of fifteen quality management teams, partially confirms the hypothesis. The occurrence of learning behavior of team members is determined by task variety and significance, and by people-oriented leadership. Task-oriented team leadership has a negative influence on the learning process of team members. The results are discussed and new directions for the research are presented.

Baernholdt, M., Drake, E., Maron, F., & Neymark, K. (2013). Fostering internationalization: an AmericanDanish semester-long undergraduate nursing student exchange program. *International Nursing Review, 60*(2), 221-227. doi: 10.1111/inr.12005

> Aim This paper describes the development, implementation and evaluation of a semester-long exchange program between two Bachelor of Science in Nursing programs in the USA and Denmark. Background Nurses globally need to provide culturally sensitive care for an ethnically diverse population. Competencies on how to do so should start in basic nursing programs. A useful strategy is through immersion into another culture through an exchange program. Little is known about successful strategies for two-way or 360 degrees exchange programs between schools from different countries. Guided by experiential learning theory, we developed an exchange program with the objective of enhancing nursing students' cultural competence through knowledge building, attitudes and behaviour development. Lessons learned and implications for educational institutions and policy are discussed. Conclusion In internationalization of nursing education, an awareness of underlying cultural values regarding nursing competence and taking appropriate action are important for success. Other areas for a successful exchange program include matching of courses or content across schools, clear objectives and evaluation plans. Finally, flexibility and open communication are key components when setting up a 360 degrees exchange program.

Barr, H. (2013). Toward a theoretical framework for interprofessional education. *Journal of Interprofessional Care, 27*(1), 4-9. doi: 10.3109/13561820.2012.698328

> This paper searches for the antecedents of some of many diverse theoretical perspectives being brought to bear to understand interprofessional education (IRE) toward developing a coherent, compatible and inclusive frame of reference. Some of the sources cited are original, "leaving everything to play for" in applying them to IPE. Others apply one or more of those sources to interprofessional learning or the context in which it is delivered. Combining perspectives in this way is helpful insofar as it furthers coherence across disciplinary boundaries, but leaves the serious scholar to trace each back to its roots. Considerations of space preclude a definitive review of the ever-increasing repertoire of theoretical perspectives being introduced into IPE from anthropology education, psychology, sociology and other academic disciplines. This paper focuses on those theories which elucidate the learning process and the learning context.

Bate, E., & Taylor, D. C. M. (2013). Twelve tips on how to survive PBL as a medical student. *Medical Teacher, 35*(2), 95-100. doi: 10.3109/0142159x.2013.759198

> Background: Starting medical school can be both exciting and daunting. This is particularly the case when the style of learning is different from that which has been experienced previously. For many students, their first experience of learning through a problem-based learning (PBL) approach is when they commence their medical student programme. Aim: This article provides 12 tips on how to survive PBL as a medical student. Methods: The tips have been based on the authors' experience of PBL and the current literature evidence base. A chronological order was used for the tips to guide the reader, whether student or PBL facilitator, through tips for the various stages of the PBL process. Results: These 12 tips provide students and PBL facilitators with 12 practical

tips to help them to realise the learning process and rationale for PBL. The tips commence with surviving the initial PBL sessions and continue through the process, finishing with the use of PBL in the clinical setting where the written scenarios are replaced by patient case histories. Conclusion: Using a PBL approach facilitates the learning of clinical and science knowledge in context through clinical scenarios, whilst working and learning together as a group. It is envisaged that these tips will be beneficial for PBL facilitators working with students that are new to PBL, and for the PBL students themselves.

Barth, M., Adomssent, M., Fischer, D., Richter, S., & Rieckmann, M. (2014). Learning to change universities from within: a service-learning perspective on promoting sustainable consumption in higher education. *Journal of Cleaner Production, 62*, 72-81. doi: 10.1016/j.jclepro.2013.04.006

Progression towards more sustainable consumption patterns is a key challenge of the 21st century. Higher education plays a crucial role in this in as much as it significantly contributes to building the capacity of future generations to deal with real-world problems of unsustainable consumption. However, conceptually substantiated approaches to educating for sustainable consumption in universities are still poorly developed. This paper contributes to bridging this gap. It merges two separate fields of scholarship (service learning and incidental learning) and analyses key aspects of a teaching approach to promoting learning for sustainable consumption in higher education. A case example of a series of project-based seminars is presented that illustrates how this conceptual approach can be applied in practice. This paper illustrates how the integration of the concept of transdisciplinarity into service learning can help to further develop the concept to support rich and meaningful learning settings for students. The paper concludes with a critical appraisal of the approach for moving forward the agenda of higher education for sustainable development in the context of consumption and with a call for further research. (C) 2013 Elsevier Ltd. All rights reserved.

Basadur, M. Gelade, G. & Basadur, T. (2014) Creative Problem-Solving Process Styles, Cognitive Work Demands, and Organizational Adaptability. *The Journal of Applied Behavioral Science* (Impact Factor: 1.21). 02/2013; 50(1):78-113. DOI: 10.1177/0021886313508433 *

ABSTRACT Organizational adaptability is modeled as a four stage creative problem solving process, with each stage involving a different kind of cognitive activity. Individuals have different preferences for each stage and thus are said to have different creative problem solving process "styles". The Creative Problem Solving Profile (or CPSP) assesses these styles and maps onto and interconnects directly with the four stages of this creative problem solving process. A field study (n=6,091) is presented in which the psychometric properties of the CPSP are established and distribution of styles in different occupations and at different organizational levels are examined. A concrete blueprint is provided for organizational leaders to follow to (a) increase organizational adaptability, (b) simplify and facilitate change management, and (c) address important organizational effectiveness issues at the individual, team and organizational levels. Real world application examples are shared and future research opportunities to expand the CPSP's usefulness are suggested.

Beckley, F., Best, W., Johnson, F., Edwards, S., Maxim, J., & Beeke, S. (2013). Conversation therapy for agrammatism: exploring the therapeutic process of engagement and learning by a person with aphasia. *International Journal of Language & Communication Disorders, 48*(2), 220-239. doi: 10.1111/j.1460-6984.2012.00204.x

> Background & Aims A recent systematic review of conversation training for communication partners of people with aphasia has shown that it is effective, and improves participation in conversation for people with chronic aphasia. Other research suggests that people with aphasia are better able to learn communication strategies in an environment which closely mirrors that of expected use, and that cognitive flexibility may be a better predictor of response to therapy than severity of language impairment. This study reports results for a single case, one of a case series evaluation of a programme of conversation training for agrammatism that directly involves a person with aphasia (PWA) as well as their communication partner. It explores how a PWA is able to engage with and learn from the therapy, and whether this leads to qualitative change in post-therapy conversation behaviours. Methods & Procedures A 55-year-old man with chronic agrammatism and his wife took part in eight weekly sessions of conversation therapy, adapted from Supporting Partners of People With Aphasia in Relationships and Conversation (SPPARC). Language and conversation were assessed before and after therapy, and the couple's views on conversation and disability were elicited. Conversation analysis was used to analyse: (1) pre-therapy conversation patterns, (2) how the PWA engaged and learned during therapy and the forms of facilitation that aided this process, and (3) qualitative change in post-therapy conversation behaviour. Outcomes & Results After therapy, the PWA showed increased insight and acceptance of the use of strategies such as writing and drawing in the face of conversational difficulty. However, use was prompted by his wife and was rarely spontaneous. Conclusions & Implications This single case study suggests that conversation training based around an experiential learning process is able to engage a PWA directly in learning about the effects of aphasia on conversation. Key facilitators were self-study via video and experience of practising conversation whilst receiving online feedback from a speech and language therapist. However, increased insight did not automatically change conversation behaviour. Although he better understood the effects of his aphasia on conversations with his wife, learning stopped short of the ultimate goal of the conversation training programme; the spontaneous use of strategies worked on in therapy when faced with conversation breakdown. One explanation may be that limited cognitive flexibility lead to problems with switching from one strategy to another.

Bergsteiner, Harald &Avery, Gayle C (2014). The twin-cycle experiential learning model: reconceptualising Kolb's theory. ***Studies in Continuing Education***. Sep2014, Vol. 36 Issue 3, p257-274.

> Experiential learning styles remain popular despite criticisms about their validity, usefulness, fragmentation and poor definitions and categorisation. After examining four prominent models and building on Bergsteiner, Avery, and Neumann's suggestion of a dual cycle, this paper proposes a twin-cycle experiential learning model to overcome identified problems and integrate the experiential learning field. In the model, an initial response to a learning stimulus or intent occurs at the intersection of a

concrete/active/primary learning cycle and an abstract/passive/secondary cycle. The model accommodates four classes of variables that describe six broad.learning activity types(engage in, write about, observe, hear/see, read, hear), the three senses these activities predominantly engage (kinaesthetic, visual, aural), six learning modes(concrete, active, primary, abstract, passive, secondary) and four learning stages. Importantly, instead of assigning learning modes to stages of learning as Kolb does, the model assigns them to the two cycles as a whole.

Bernabeo, E. C., Holmboe, E. S., Ross, K., Chesluk, B., & Ginsburg, S. (2013). The utility of vignettes to stimulate reflection on professionalism: theory and practice. *Advances in Health Sciences Education, 18*(3), 463-484. doi: 10.1007/s10459-012-9384-x

Professionalism remains a substantive theme in medical literature. There is an emerging emphasis on sociological and complex adaptive systems perspectives that refocuses attention from just the individual role to working within one's system to enact professionalism in practice. Reflecting on responses to professional dilemmas may be one method to help practicing physicians identify both internal and external factors contributing to (un) professional behavior. We present a rationale and theoretical framework that supports and guides a reflective approach to the self assessment of professionalism. Guided by principles grounded in this theoretical framework, we developed and piloted a set of vignettes on professionally challenging situations, designed to stimulate reflection in practicing physicians. Findings show that participants found the vignettes to be authentic and typical, and reported the group experience as facilitative around discussions of professional ambiguity. Providing an opportunity for physicians to reflect on professional behavior in an open and safe forum may be a practical way to guide physicians to assess themselves on professional behavior and engage with the complexities of their work. The finding that the focus groups led to reflection at a group level suggests that effective reflection on professional behavior may require a socially interactive process. Emphasizing both the behaviors and the internal and external context in which they occur can thus be viewed as critically important for understanding professionalism in practicing physicians.

Beveridge, T. S., Fruchter, L. L., Sanmartin, C. V., & deLottinville, C. B. (2014). Evaluating the use of reflective practice in a nonprofessional, undergraduate clinical communication skills course. *Teaching in Higher Education, 19*(1), 58-71. doi: 10.1080/13562517.2013.827655

Recent studies suggest that the quality of reflective practice being achieved in educational settings is inadequate. Our study aims to determine the level of reflection present in written student reflections in a nonprofessional undergraduate course. We also seek to explore student and instructor perspectives on the value of reflective practices. A measurement instrument was developed to assess the depth of reflection in student submissions. Questionnaires and focus groups were utilized to further examine the role of reflective practice. Our findings suggest that most students are not aware of the objective of reflection and that only 19% of students actually achieve reflection as described by major theorists. However, 95% of participants believe that the exercise is beneficial to their learning. We conclude that the lack of guidance and unclear objectives may

contribute to the students' inability to reflect. Nevertheless, reflections were deemed effective in providing an avenue for self-assessment and learning consolidation.

Bisschoff, T., & Watts, P. (2014). Leadership for learning: A case of leadership development through challenging situations. *Education as Change, 17*, S21-S31. doi: 10.1080/16823206.2014.865987
> This study provided an understanding of the leadership learning of principals (they are called headteachers in England) by exploring their practices and perspectives when dealing with challenging situations. The research methodology used semi-structured interviews to capture the experiences of primary school principals as they described the challenges they face and the way in which they learn from them. The findings show that primary school leadership is embedded in relationships that are complex and challenging. Strategies and coping mechanisms principals use to deal with challenges are similar and reflect the powerful influence of values, trust and emotional resilience. The insights presented in this study should inform the future research agenda in educational leadership. Strategies that enable principals to experience more planned and meaningful development are presented. These include formal coaching systems, the formation of meaningful networks and guided critical reflection on experiences. A framework for integrated leadership development, which supports the aspects of leadership acquired through real-life challenges, is also proposed. This should enhance those aspects of leadership that can be learnt through challenging situations and better equip principals to manage and lead their schools.

Blagojevic, M., & Milosevic, M. (2013). Collaboration and Learning Styles in Pure Online Courses: an Action Research. *Journal of Universal Computer Science, 19*(7), 984-1002.
> Collaboration provides numerous possibilities for realisation of active learning/teaching concepts in e-learning. For this reason it is recomendable to determine the optimal way in which to develop collaborative activities, with the possibility of adapting the appropriate modules' use in accordance with learners' characteristics. The paper presents a description of a behaviour pattern analysis, which deals with learners with different learning styles using collaborative modules. An action research was conducted using data from Master degree program that is conducted purely online. The research goals were to find out if there was a potential for improvement of collaborative modules usage, utilizing students' preferences and produce recommendations for module future usage. The results showed that there was no difference among learners with different styles regarding either the frequency of access to collaborative modules or the frequency of different actions performed on these modules. Based on these results, a recommendation emerged to keep using these modules in similar way as before and put effort in finding additional data that could be used in further adaptation construct.

Bockers, A., Mayer, C., & Bockers, T. M. (2014). Does Learning in Clinical Context in Anatomical Sciences Improve Examination Results, Learning Motivation, or Learning Orientation? *Anatomical Sciences Education, 7*(1), 3-11. doi: 10.1002/ase.1375
> The preclinical compulsory elective course Ready for the Operating Room (OR)!? [in German]: Fit fur den OP (FOP)] was implemented for students in their second year, who were simultaneously enrolled in the gross anatomy course. The objective of the study was

to determine whether the direct practical application of anatomical knowledge within the surgical context of the course led to any improvement in learning motivation, learning orientation, and ultimately examination results in the gross anatomy course, as compared with a control group. Within the scope of five teaching sessions, the students learned surgical hand disinfection, suturing techniques, and the identification of commonly used surgical instruments. In addition, the students attended five surgical demonstrations performed by surgical colleagues on cadavers. Successful learning of these basic skills was then assessed based on an Objectively Structured Practical Examination. Learning motivation and learning orientation in both subgroups was determined using the SELLMO-ST motivation test and the Approaches and Study Skills Inventory test. While a significant increase in work avoidance was identified in the control group, this was not the case for FOP participants. Similarly, an increase in the deep approach to learning, as well as a decrease in the surface approach, was able to be documented among the FOP participants following completion of the course. The results suggest that students enrolled in the gross anatomy course, who were simultaneously provided with the opportunity to learn in clinical context, were more likely to be successful at maintaining learning motivation and learning orientation required for the learning process, than students who attended the gross anatomy course alone. Anat Sci Educ. 7: 3-11. (c) 2013 American Association of Anatomists.

Bodner, D. A., Wade, J. P., Watson, W. R., & Kamberov, G. I. (2013). Designing an Experiential Learning Environment for Logistics and Systems Engineering. In C. J. J. Paredis, C. Bishop & D. Bodner (Eds.), *2013 Conference on Systems Engineering Research* (Vol. 16, pp. 1082-1091).
Systems engineering increasingly addresses the system lifecycle, as opposed to its more traditional role focusing on design and development. This new situation results in part from the recognition that upstream design and deployment decisions have potentially significant cost and performance implications post-deployment. For military systems, the role that typically addresses post-deployment issues is the logistician. Over the system lifecycle, it is important that the traditional roles of systems engineer and logistician understand issues faced by one another, as well as joint cost and performance implications. This paper presents the design of a role-based experiential learning environment for logisticians involved in military sustainment. This design leverages the generic components of an existing single-learner technology base, the Experience Accelerator, for presenting and controlling the learner experience, plus simulating program outcomes resulting from learner decisions. This technology base has been used to create a learning experience for a lead systems engineer in charge of designing and developing a new unmanned aerial vehicle (UAV) system. In this new environment, the logistician learner interacts with systems engineers during UAV system acquisition and sustainment, learns about systems engineering issues and their effect on logistics, tries to influence upstream systems engineering decisions, and also performs logistics functions.

Bontenbal, M. C. (2013). DIFFERENCES IN LEARNING PRACTICES AND VALUES IN NORTHSOUTH CITY PARTNERSHIPS: TOWARDS A BROADER UNDERSTANDING OF MUTUALITY. *Public Administration and Development, 33*(2), 85-100. doi: 10.1002/pad.1622
This article addresses twinning between local governments in North and South, contributing to the past decade's discourse on institutional twinning in this journal. Local

governments have increasingly become recognised as relevant actors in international development cooperation through city-to-city cooperation structures, which have been praised as an effective mechanism for local government capacity building. This article discusses the learning practices and the extent to which new knowledge is valued and adopted by twinning participants in both North and South and moreover whether learning benefits are mutual. In a study of three partnerships between Dutch municipalities and partner cities in Peru, South Africa and Nicaragua, 36 participants were interviewed. The findings reveal that learning in city-to-city partnerships is not mutual between North and South and that the benefits of shared learning'a rhetoric commonly used in the twinning discourseare limited. Instead, other opportunities for mutuality arise for Northern municipalities from political and strategic benefits, such as staff loyalty and motivation. Mutuality in twinning hence deserves a broader interpretation than learning alone so that twinning benefits can be identified and maximised for both North and South, keeping cities interested and motivated.

Boosman, H., van Heugten, C. M., Post, M. W. M., Lindeman, E., & Visser-Meily, J. M. A. (2013). Validity and feasibility of a learning style instrument for brain injury rehabilitation. *Disability and Rehabilitation, 35*(21), 1783-1789. doi: 10.3109/09638288.2012.753117

Purpose: Identifying learning styles of acquired brain injury (ABI) patients may aid the learning process by tailoring to the patient's learning needs and preferences. Currently, there is no learning style instrument for ABI patients. We therefore determined the validity and feasibility of the Adapted Learning Style Inventory (A-LSI) for patients with ABI. Method: We included 99 patients with ABI and 42 healthy controls. Learning styles were determined and subgroups were used to evaluate the validity of the A-LSI. Furthermore, rehabilitation professionals' perceptions on learning style and the A-LSI were evaluated. Results: In the patient group, the A-LSI yielded the following learning styles: 4 doers, 54 observers, 2 deciders and 39 thinkers. A similar distribution was found for the control group (3, 28, 0 and 11, respectively). Spearman correlations revealed moderate internal validity. Content validity of the A-LSI was also moderate; 11 out of 19 patients recognized themselves in their A-LSI learning style. Furthermore, 12 rehabilitation professionals reported positive and negative aspects of the A-LSI and suggestions for using learning style in rehabilitation. Conclusions: Rehabilitation professionals were generally positive about using learning style in ABI rehabilitation. This study, however, raises doubts about the validity and feasibility of the A-LSI for this population.

Brail, S. (2013). Experiencing the city: Urban Studies students and service learning. *Journal of Geography in Higher Education, 37*(2), 241-256. doi: 10.1080/03098265.2012.763115

Service-learning represents a method of learning in which students learn through volunteering, while at the same time being asked to reflect on their experiences and tie together experience with classroom-based material, thereby developing their learning through service activities. This paper explores the role and value of service learning in Urban Studies and is based on a review of student reflective journals written following a service-learning experience in which undergraduate students were given the opportunity to volunteer outside the classroom as part of their coursework in an introductory Urban Studies course at the University of Toronto. Evaluating student learning through service

learning-based reflection enables further understanding of how students learn through exploration of the urban realm.

Brinker, J. K., Roberts, P., & Radnidge, B. (2014). The Game of Late Life: A Novel Education Activity for the Psychology of Ageing. *Educational Gerontology, 40*(2), 91-101. doi: 10.1080/15402002.2013.795038

This article describes the development and evaluation of The Game of Late Life, a novel education activity for the psychology of ageing. The game was designed to provide transformational learning where students imagine themselves as older adults and move through late life via a game board, encountering various life events along the way. One of the key features of the game is that several of the life event outcomes (moves on the board) are dependent on the how the player interprets and responds to that event. The activity was evaluated across two semesters. In the first study, playing the game significantly improved students' attitudes towards ageing, but did not significantly reduce their anxiety about ageing. Open-ended responses indicated the discussion students engaged in during the game was an important factor for transformational learning. The second study replicated and extended the first by adding significantly more instruction to the tutors about fostering discussion and including specific questions about group discussion in the evaluation. Again, playing the game produced significantly more positive attitudes towards ageing, and in this second iteration it also significantly reduced anxiety about ageing. The student ratings of their tutor's ability to foster discussion were significantly related to the changes in these variables. Students also had very positive feedback about the game as an interesting and engaging activity. While this version of the game is designed around the psychology of ageing, the premise would be easily translated to any area of gerontological education across many disciplines.

Brown, A., & Maydeu-Olivares, A. (2013). How IRT Can Solve Problems of Ipsative Data in Forced-Choice Questionnaires. *Psychological Methods, 18*(1), 36-52. doi: 10.1037/a0030641*

In. multidimensional forced-choice (MFC) questionnaires, items measuring different attributes are presented in blocks, and participants have to rank order the items within each block (fully or partially). Such comparative formats can reduce the impact of numerous response biases often affecting single-stimulus items (aka rating or Likert scales). However, if scored with traditional methodology, MFC instruments produce ipsative data, whereby all individuals have a common total test score. Ipsative scoring distorts individual profiles (it is impossible to achieve all high or all low scale scores), construct validity (covariances between scales must sum to zero), criterion-related validity (validity coefficients must sum to zero), and reliability estimates. We argue that these problems are caused by inadequate scoring of forced-choice items and advocate the use of item response theory (IRT) models based on an appropriate response process for comparative data, such as Thurstone's law of comparative judgment. We show that when Thurstonian IRT modeling is applied (Brown & Maydeu-Olivares, 2011), even existing forced-choice questionnaires with challenging features can be scored adequately and that the IRT-estimated scores are free from the problems of ipsative data.

Browne, J., Thorpe, S., Tunny, N., Adams, K., & Palermo, C. (2013). A qualitative evaluation of a mentoring program for Aboriginal health workers and allied health professionals. *Australian and New Zealand Journal of Public Health, 37*(5), 457-462. doi: 10.1111/1753-6405.12118

> Objective: Effective partnerships between Aboriginal Health Workers and non-Aboriginal health professionals are essential to achieve Aboriginal health outcomes. This study aimed to evaluate a mentoring workforce development strategy for Aboriginal Health Workers and non-Aboriginal allied health professionals. Methods: Thirty-four Aboriginal Health Workers and non-Aboriginal health professionals were recruited to the mentoring program where they were paired and established a learning relationship for approximately six months. A qualitative evaluation with thirty of the participants was undertaken involving in-depth interviews at the completion of the program. Results: A total of 18 mentoring partnerships were formed across Victoria. The data revealed three key themes in relation to the evaluation of the program: (1) The mentoring program facilitated two-way learning, (2) The Aboriginal Health Workers and non-Aboriginal health professional participants reported being able to meet their identified learning needs through the partnership, (3) The capacity to improve practice was facilitated through readiness to learn and change practice and personal attributes of the participants, as well as organisation and management support. Conclusions: Peer mentoring between Aboriginal and non-Aboriginal health workforce was found to be a powerful mechanism to promote two-way learning that has the capacity to meet learning needs and promote practice improvement. Implications: Peer mentoring may be part of a multi-strategy approach to the development of the Aboriginal health workforce.

Buali, W. H. A., Balaha, M. H. & Muhaidab, N. S. A. (2013). Assessment of learning style in a sample of saudi medical students. *Acta Informatica Medica* 01/2013; 21(2):83-8

> **ABSTRACT:** NONE DECLARED. By knowing the different students' learning styles, teachers can plan their instruction carefully in ways that are capitalized on student preferences. The current research is done to determine specific learning styles of students. This cross sectional study was conducted in Al Ahsa College of Medicine from 2011 to 2012. A sample of 518 students completed a questionnaire based on Kolb inventory (LSI 2) to determine their learning style. A spreadsheet was prepared to compute all the information to get the cumulative scores of learning abilities and identify the learning styles. The mean values of the learning abilities; active experimentation (AE), reflective observation (RO), abstract conceptualizing (AC) or concrete experience (CE) for male students were 35, 28, 30 and 26 respectively while they were 31, 30, 31 and 29 respectively for female students. There were significant difference between male and female students regarding the mean values of AE-RO (6.7 vs 1.5) and AC-CE (4.1 vs 2.1). This indicated that the style of male students were more convergent and accommodating than those of female students. The female had more assimilating and divergent styles. Learning style in Saudi medical students showed difference between males and females in the early college years. Most male students had convergent and accommodating learning styles, while the female dominant learning styles were divergent and assimilating. Planning and implementation of instruction need to consider these findings.

C

Cameron, S., Mulholland, J., & Branson, C. (2013). Professional learning in the lives of teachers: towards a new framework for conceptualising teacher learning. *Asia-Pacific Journal of Teacher Education, 41*(4), 377-397. doi: 10.1080/1359866x.2013.838620

> This interpretative study of teachers as learners explored the continuing professional learning of teachers in a range of Australian schools. While teacher learning is regarded as a cornerstone of school reform, knowledge of how and why teachers engage in ongoing learning is scant. Research participants completed an open-ended questionnaire about their professional learning experiences and participated in semi-structured interviews in which they shared their learning narratives. The study found three sets of major influences on teachers' engagement with professional learning and the quality of that learning. These influences were isolation (both geographic and professional), cost (both educational and emotional), and the professional and personal life stages of teachers. A new descriptive framework through which to understand the intricate interconnections between teacher-learners, professional learning and learning contexts across teaching careers is proposed.

Carrier, S. J., Tugurian, L. P., & Thomson, M. M. (2013). Elementary Science Indoors and Out: Teachers, Time, and Testing. *Research in Science Education, 43*(5), 2059-2083. doi: 10.1007/s11165-012-9347-5

> In this article, we present the results from a mixed-methods research study aimed to document indoor and outdoor fifth grade science experiences in one school in the USA in the context of accountability and standardized testing. We used quantitative measures to explore students' science knowledge, environmental attitudes, and outdoor comfort levels, and via qualitative measures, we examined views on science education and environmental issues from multiple sources, including the school's principal, teachers, and students. Students' science knowledge in each of the four objectives specified for grade 5 significantly improved during the school year. Qualitative data collected through interviews and observations found limited impressions of outdoor science. Findings revealed that, despite best intentions and a school culture that supported outdoor learning, it was very difficult in practice for teachers to supplement their classroom science instruction with outdoor activities. They felt constrained by time and heavy content demands and decided that the most efficient way of delivering science instruction was through traditional methods. Researchers discuss potentials and obstacles for the science community to consider in supporting teachers and preparing elementary school teachers to provide students with authentic experiential learning opportunities. We further confront teachers' and students' perceptions that science is always best and most efficiently learned inside the classroom through traditional text-driven instruction.

Carreira, M. B., & Heitor, T. (2014). LEARNING SPACES IN UNIVERSITY CONTEXT. *THE 7th KNOWLEDGE CITIES WORLD SUMMIT*, 254. *

This paper is focused on a research project aiming at exploring how the social interaction process and learning (knowledge generation, sharing, acquisition and transmission) are a result of space design and its mode of appropriation. The relationship between space and learning in university context are emphasized. This relation is analyzed in the scope of the theoretical framework of the Educational Campus (Campos 2010b) that defines the university learning setting in a broader context, from personal spaces to shared facilities.

The first phase grasps the case study selection. Every activity held in the university context is described and grouped in functions. Each function contains several categories of space and each category of space considers a set of illustrations. These illustrations comprehend diverse functional representative spaces.

The second phase comprehends the scope of several topics: scale, actors, learning category, interaction, environmental characteristics and morphology. These subjects are typified for the definition of the analysis criteria.

The third phase consists on the execution and analysis of the illustrations' characterization sheets; according to the analysis criteria of phase two. This will lead to the category of space characterization sheet and the complete mapping profile.

The final output considers the design of a mapping profile, which will provide guidelines to create or modify a setting in order to facilitate predetermined learning experiences and interactions. It will provide a practical support for the creation and renovation of higher education facilities.

Cassar, G. (2014). Industry and startup experience on entrepreneur forecast performance in new firms. *Journal of Business Venturing, 29*(1), 137-151. doi: 10.1016/j.jbusvent.2012.10.002

I theoretically develop and empirically investigate the role of industry and startup experience on the forecast performance of 2304 entrepreneurs who have started new businesses. Using the Kauffman Firm Survey I show that industry experience is associated with more accurate and less biased entrepreneur expectations. Further, the benefit of industry experience on entrepreneurial forecast performance is greater in high-technology industries. These findings are consistent with knowledge of the setting informing entrepreneurial decision making, especially in highly uncertain environments. However, in contrast to the prevailing view in the literature, I find no significant evidence that startup experience improves entrepreneurial forecast performance.

Cegielski, C. (2014). TEACH THEM HOW THEY LEARN: LEARNING STYLES AND INFORMATION SYSTEMS EDUCATION

The rich, interdisciplinary tradition of learning styles is markedly absent in information systems-related research. The current study applies the framework of learning styles to a common educational component of many of today's information systems curricula – object-oriented systems development, in an effort to answer the question as to whether one's learning style, when matched with a specific complementary instructional methodology, results in increased domain-specific performance. The data collected from 196 information systems majors enrolled in object-oriented systems development courses suggests that task performances increases significantly when the instructional methodology closely mirrors the student's learning style inclination.

Chang, M. M., & Lin, M. C. (2014). The effect of reflective learning e-journals on reading comprehension and communication in language learning. *Computers & Education, 71*, 124-132. doi: 10.1016/j.compedu.2013.09.023

This study focused on the use of reflective learning e-journals in a university web-based English as a foreign language (EFL) course. In the study, a multimedia-based English programme comprising fifteen different units was delivered online as a one-semester instructional course. Ninety-eight undergraduate students participated, and they were divided into two groups: the treatment group used reflective learning e-journals, while the control group completed content-related exercises. The study investigated the effects of

reflective learning e-journals and how students used them to aid learning. Results show that when learning from web-based instruction, students who used reflective learning e-journals outperformed students who did not do so in terms of reading comprehension. Using reflective e-journals improved the academic performance of learners in the online course. In addition, journal writing students claimed that they also improved their organisational skills and writing abilities through their reflective learning e-journal writing and found the journal writing to be a very helpful tool in reviewing the course and preparing for the exam.

Chapman, J. (2013). The pragmatics and aesthetics of knowing: implications for online education. *Kybernetes, 42*(8), 1166-1180. doi: 10.1108/k-06-2013-0114 $

> Purpose - The aim of this paper is to contribute to making higher education, particularly online education, more relevant and inspiring by orienting it toward the pragmatics and aesthetics of knowing. This paper also demonstrates the relevance of cybernetics and cybernetic thinking in education today. Design/methodology/approach - The author's general strategy is to connect processes of knowing to the purpose of education, thus providing an organizing principle for the design and practice of online education. Nontrivial conversation and aesthetic experience are combined in a cybernetic complementarity, conceptualized as the processes that foster understanding. This serves the purpose of education, defined here as developing an understanding of how knowledge is constructed and fostering ways of knowing that are creative and complex. Findings - Because the world has become increasingly complex, ambiguous, and pluralistic, the type of thinking needed to act and interact in the world must also be complex, e.g. creative, adaptive, relational, and empathetic. Research shows that this type of thinking is brought forth by aesthetic experience and nontrivial conversation. Combining these as processes of knowing provides a non-dogmatic way of orienting education toward student-centered constructivist learning. Originality/value - Connecting nontrivial conversation and aesthetic experience as processes of knowing is an original contribution to education literature. This is also an exemplar of generating a cybernetic complementarity for conceptual modelling in education design. Anyone interested in how online education can extend efforts to transform higher education so it may better facilitate thinking in ways that are creative and complex will find this paper valuable.

Chen, G. D., Nurkhamid, Wang, C. Y., Yang, S. H., Lu, W. Y., & Chang, C. K. (2013). Digital Learning Playground: supporting authentic learning experiences in the classroom. *Interactive Learning Environments, 21*(2), 172-183. doi: 10.1080/10494820.2012.705856 $

> This study proposes a platform to provide a near-authentic environment, context, and situation for task-based learning. The platform includes two projection screens (a vertical and a horizontal screen) combined for situated or authentic learning. The horizontal screen extends the vertical screen scene to form a space for learning activities and performance. The platform creates learning situations using robots as surrogates of students to accomplish real-life tasks. Kolb's four-stage experiential learning cyclical model was adopted in the learning design. A simple practice was developed to examine the effect on teaching children English as a foreign language. The results reveal that children could engage deeply and feel more enjoyment using the system. Moreover, as

surrogates for students to imagine that they are accomplishing real-life missions, robots could be a vital element of authentic learning in future classrooms.

Cheng, G. (2014). Exploring students' learning styles in relation to their acceptance and attitudes towards using Second Life in education: A case study in Hong Kong. *Computers & Education, 70*, 105-115. doi: 10.1016/j.compedu.2013.08.011 $

    The purpose of this study was to investigate students' learning styles in relation to their acceptance and attitudes towards using Second Life (SL) as a supporting tool for learning in higher education. A total of 32 undergraduate students taking a course called 'Digital Imaging' participated in the study. The participants were first asked to design their own graphics using a range of digital imaging techniques. They were then asked to share the artwork with peers in SL for discussion and conduct a formal presentation as a professional designer on their design in SL. The Index of Learning Styles (ILS) developed by Felder and Soloman (1994) and the Views about SL questionnaire (VSLQ) designed by the author were used to measure participants' learning styles as well as their acceptance and attitudes towards SL, respectively. Quantitative results derived from the questionnaires were validated by qualitative data collected from a follow-up interview with a sample of participants. Major findings from the study indicate that active learners mostly valued the ease of use and usefulness of SL whereas verbal students were mostly satisfied with the communication and identity features in SL Besides, the study also identified some practical problems with the use of SL in education including insufficient teaching and learning time, limited mode of communication with instructor and inadequate equipment for running SL (C) 2013 Elsevier Ltd. All rights reserved.

Chiniara, G., Cole, G., Brisbin, K., Huffman, D., Cragg, B., Lamacchia, M., . . . Canadian Network, S. (2013). Simulation in healthcare: A taxonomy and a conceptual framework for instructional design and media selection. *Medical Teacher, 35*(8), E1380-E1395. doi: 10.3109/0142159x.2012.733451

    Background: Simulation in healthcare lacks a dedicated framework and supporting taxonomy for instructional design (ID) to assist educators in creating appropriate simulation learning experiences. Aims: This article aims to fill the identified gap. It provides a conceptual framework for ID of healthcare simulation. Methods: The work is based on published literature and authors' experience with simulation-based education. Results: The framework for ID itself presents four progressive levels describing the educational intervention. Medium is the mode of delivery of instruction. Simulation modality is the broad description of the simulation experience and includes four modalities (computer-based simulation, simulated patient (SP), simulated clinical immersion, and procedural simulation) in addition to mixed, hybrid simulations. Instructional method describes the techniques used for learning. Presentation describes the detailed characteristics of the intervention. The choice of simulation as a learning medium is based on a matrix of simulation relating acuity (severity) to opportunity (frequency) of events, with a corresponding zone of simulation. An accompanying chart assists in the selection of appropriate media and simulation modalities based on learning outcomes. Conclusion: This framework should help educators incorporate simulation in their ID efforts. It also provides a taxonomy to streamline future research and ID efforts in simulation.

Chodos, D**.,** Stroulia, E. & King, S. (2014). A framework for monitoring instructional environments in a virtual world. *British Journal of Educational Technology* 45(1) DOI 10.1111/j.1467-8535.2012.01370.x *

> Virtual worlds are gaining momentum as a platform for delivering simulation-based educational experiences to students. However, a key aspect of virtual world-based education that has received little attention is recording and analyzing students' in-world actions. This capability is essential for assessing what students have learned through their simulation experience, and engaging the students in post-simulation reflective learning. In this research, we present a framework for recording and analyzing students' actions in a virtual world. This framework is based upon pedagogical theories of exploratory and experiential learning, and is defined in a virtual-world agnostic manner. The framework consists of two parts: (1) the Avatar Capabilities Model, which defines the educationally relevant actions that a student can take within a virtual world and (2) the Simulation Capture and Analysis toolkit that records and analyzes these actions, from an educational perspective. These analyses provide instructors with systematically collected evidence of the students' actions during their virtual world experience. This alleviates the need for instructors to directly observe students, thereby allowing for the scaling-up of virtual worlds use in education. We have demonstrated the usefulness of the tool via a pilot study, with two students, in an emergency medical education context.

Clarà, M. (2014). What Is Reflection? Looking for Clarity in an Ambiguous Notion. *Journal of Teacher Education*, 0022487114552028.

> The notion of reflection nowadays is considered crucial in the field of teaching and teacher education. However, although the great majority of approaches to reflection are grounded on the same main theoretical sources, the meaning of this notion is unanimously recognized in the field to be ambiguous. This article aims to look for clarity about what reflection is, what it is not, and how it works, by closely revisiting the seminal works of Dewey, Schön, and Wertheimer. It is argued that reflection is a descriptive notion—not a prescriptive one—and that it refers to the thinking process engaged in giving coherence to an initially unclear situation. The article then identifies some aspects of how reflection works, and some current widespread assumptions about reflection, which are insufficiently warranted, either theoretically in the writings of Dewey or Schön or empirically in the observations of reflection processes.

Clark, R. W., Threeton, M. D., & Ewing, J. C. (2014). The potential of experiential learning models and practices in career and technical education & career and technical teacher education. *Journal of Career and Technical Education*, *25*(2).

> Since inception, career and technical education programs have embraced experiential learning as a true learning methodology for students to obtain occupational skills valued by employers. Programs have integrated classroom instruction with laboratory experiences to provide students a significant opportunity to learn. However, it is questionable as to the level of authentic experiential learning instructional practices that are actually taking place. This paper explores the tenets of experiential learning and considers the application of true experiential learning pedagogy into secondary career and technical programs along with teacher education programs in career and technical education. If the concept of experiential learning instructional pedagogy is to provide an authentic context in which students can benefit from it, educators should expand their knowledge of implementing experiential learning into their programs. Additionally,

career and technical education teacher educators may enhance their programs by providing instruction to pre-service teachers in authentic experiential learning pedagogy.

Clapper T. C. (2014). Situational interest and instructional design: A guide for simulation facilitators. *Simulation and Gaming* 45: 167

> The education reformer, Horace Mann once suggested that trying to teach a learner without creating interest is like hammering cold iron. All too often, health care educators begin an instructional session while the mind of the learner is focused on places other than on the subject to be learned. Regardless of specialization, understanding situational interest and ways to nurture it in the facilitation process is important for educators. However, it is especially important for the health care community as it helps us to develop best practices in instructional design and facilitation that can improve simulation-based instruction. This article defines situational interest and explains how instructional design can generate such interest with the use of advance organizers, active learning strategies, and the practices of effective reflection-in-action and reflection-on-action. Developing situational interest may lead to an individual interest or passion for the subject, foster lifelong learning, and encourage learners to return for additional simulation-based learning experiences.

Cleary, M. N. (2013). Flowing and Freestyling: Learning from Adult Students about Process Knowledge Transfer. *College Composition and Communication, 64*(4), 661-687.

> A study of twenty-five newly returned adult students finds that students with more process experience used more and more specific process analogies to construct their writing processes for school assignments than those with less process experience. Cues from peers and sense of academic identity also influenced transfer of process knowledge.

Clements, M. D., & Cord, B. A. (2013). Assessment guiding learning: developing graduate qualities in an experiential learning programme. *Assessment & Evaluation in Higher Education, 38*(1), 114-124. doi: 10.1080/02602938.2011.609314

> As industry demands increase for a new type of graduate, there is more pressure than ever before for higher education (HE) to respond by cultivating and developing students who are prepared for these workplace challenges. This paper explores an innovative experiential learning programme built on the principles of work-related learning that develops students to attain graduate qualities for competitiveness in the business sector. The role and importance of assessment as a core influence for learning is recognised and embedded into the programme, as well as the prevalence of meeting the needs of its stakeholders. Issues concerning assessing work-oriented learning are explored as well as what assessment methods might be most appropriate for enhancing and evaluating learning in this context. Feedback from stakeholders on the structure of the programme and its assessment are discussed as well as the question of how to maintain work-related programmes in HE. If such programmes continue to focus assessment and design around student learning, students will not only have the opportunity to apply their knowledge in a practical context, they will also be maximising their personal learning outcomes with the added advantage of being better equipped to compete in an increasingly competitive marketplace.

Coghlan, D., & Brannick, T. (2014). *Doing action research in your own organization*. Sage. The fourth edition of this bestselling book is packed full of practical, expert advice on how to navigate the murky waters of ethics, politics and management in your own organization. Multidisciplinary in its approach to action research, the book sets out a step-by-step template for researchers to follow and adapt. Coghlan and Brannick: Introduce and contextualise action research as a method Provide guidance on how to design and implement your action research project Explore interlevel dynamics Discuss role duality and access

Corlett, S. (2013). Participant learning in and through research as reflexive dialogue: Being 'struck' and the effects of recall. *Management Learning, 44*(5), 453-469. doi: 10.1177/1350507612453429 $
Although learning as a dialogic process involving critical self-reflexivity is well recognized, enacting management learning in and through research dialogue with participants has been given limited attention. This article fuses, from related research, relational social constructionist understandings of knowing, learning and research to produce a framework of research as a dialogic process of learning. The framework emphasizes the importance of being struck' for participant-centred self-reflexivity and management learning. The framework is illustrated by drawing on empirical material from a research project involving five managers' participation in a set of three research interviews. The research highlights the temporal and historical features of being struck' and the effect of recall in stimulating self-reflexivity and learning. The article also considers how participants and researchers may seize striking moments by illustrating direct and indirect ways of talking and acting which signal being struck'.

Cotton, D. R. E., George, R., & Joyner, M. (2013). Interaction and influence in culturally mixed groups. *Innovations in Education and Teaching International, 50*(3), 272-283. doi: 10.1080/14703297.2012.760773
Graduates are increasingly expected to work in international contexts, therefore skills in intercultural interaction are crucial. Previous research suggests that overseas students anticipate positive intercultural interaction but are often disappointed, as some home students are unwilling to work in intercultural groups without explicit encouragement. In this study, we investigated interactions in three group work settings with home (UK) and international students in order to explore differing patterns of participation. The findings suggest that in culturally mixed groups, the UK students (particularly males) dominated discussions, with limited input from overseas students. In a group consisting solely of international students, the interactions were much more equal. However, an analysis of influence on group decisions (in terms of proportion of suggestions accepted by the group), suggested that the influence of male home students was lower than their participation would imply. The research suggests that there is a need to plan and manage group work carefully, especially where there are diverse groups of students.

Coulson, D., & Harvey, M. (2013). Scaffolding student reflection for experience-based learning: a framework. *Teaching in Higher Education, 18*(4), 401-413. doi: 10.1080/13562517.2012.752726 $

> Reflection is widely posited as a professional practice and process that supports students to learn through experience. Effective reflection for learning through experience requires a high level of introspection and open-minded self-analysis, a capacity for abstract learning, and self-regulation and agency that few students in higher education innately possess. Reflection can, however, be learnt and taught through strategic interventions and careful scaffolding. This paper outlines a new framework for scaffolding reflection for learning through experience. The framework was developed by the authors as a scaffolding aid to develop teachers' ability to effectively incorporate reflection into experience-based learning curriculum in higher education. The authors contend that scaffolding reflection during each of four learning phases will positively contribute to learning through experience.

Couper, K., Salman, B., Soar, J., Finn, J., & Perkins, G. D. (2013). Debriefing to improve outcomes from critical illness: a systematic review and meta-analysis. *Intensive Care Medicine, 39*(9), 1513-1523. doi: 10.1007/s00134-013-2951-7

> Intensive care clinicians play a central role in the co-ordination and treatment of patients that develop life-threatening emergencies. This review evaluates the effect of debriefing after life-threatening emergencies and considers the implications for intensive care training and practice. Studies were identified by searching electronic databases, citation tracking, and contact with subject specialists. Studies evaluating the effect of debriefing after life-threatening emergencies on clinician performance (process) and/or patient outcomes were eligible for inclusion. Study quality was assessed and summarised using the GRADE system. The search identified 2,720 studies. After detailed review, 27 studies were included of which 20 supported the use of debriefing. Debriefing was viewed positively (n = 3), improved learning (n = 1), enhanced non-technical performance (n = 4) and technical performance (n = 16), and improved patient outcomes (n = 2). Four cardiac arrest studies were suitable for meta-analysis. This found evidence of improved resuscitation process outcomes [compression fraction (mean difference 6.80, 95 % CI 4.19-9.40, p < 0.001)] and short-term patient outcome [return of spontaneous circulation (OR 1.46, 95 % CI 1.01-2.13, p = 0.05)]. There was no effect on survival to hospital discharge (OR 0.80, 95 % CI 0.38-1.67, p = 0.55). This review supports the use of structured debriefing as an educational strategy to improve clinician knowledge and skill acquisition and implementation of those skills in practice. However, the effect of debriefing on long-term patient outcomes is uncertain. There remains a need for further high-quality research, which seeks to identify the optimal method for debriefing delivery and effect on patient outcomes.

Cowley, B., Heikura, T., & Ravaja, N. (2013). Learning loops - interactions between guided reflection and experience-based learning in a serious game activity. *Journal of Computer Assisted Learning, 29*(4), 348-370. doi: 10.1111/jcal.12013

> In a study on experience-based learning in serious games, 45 players were tested for topic comprehension by a questionnaire administered before and after playing the single-player serious game Peacemaker (Impact Games 2007). Players were divided into two activity

conditions: 20 played a 1-h game with a 3-min half-time break to complete an affect self-report form while 25 also participated in a 20-min reflective group discussion during their half-time break. During the discussion, they were asked by an experimenter to reflect on a set of topics related to the game. We present the analysis of the questionnaires, which illustrates that contrary to our expectations the reflection period had a negative effect on the learning of the players as judged by their performance on closed-form questions at levels 1-5 (out of 6) on the Bloom taxonomy of learning outcomes. The questionnaire also included a few open questions which gave the players a possibility to display deep (level 6) learning. The players did not differ significantly between conditions regarding the questions measuring deep learning.

Cowley, B., Ravaja, N., & Heikura, T. (2013). Cardiovascular physiology predicts learning effects in a serious game activity. *Computers & Education, 60*(1), 299-309. doi: 10.1016/j.compedu.2012.07.014*

In a study on learning in serious games, 45 players were tested for topic-comprehension by a questionnaire administered before and after solo-playing of the serious game Peacemaker (Impact Games 2007), during which their psychophysiological signals were measured. Play lasted for 1 h, with a break at half time. The questionnaire was divided into two parts, with fixed and open questions respectively. We use the Bloom taxonomy to distinguish levels of difficulty in demonstrated learning - with the first five levels assigned to fixed questions - and gain scores to measure actual value of demonstrated learning. We present the analysis of the psychophysiology recorded during game play and its relationship to learning scores. The Heart Rate Variability (HRV) (an indicator of mental workload) and interaction between HRV and electromyography of Orbicularis Oculi (an indicator of positive affect) significantly predicted the learning results at certain levels of difficulty. Results indicate that increased working-memory related mental workload in support of on-task attention aids learning at these levels.

Cullen, M. J., Muros, J. P., Rasch, R., & Sackett, P. R. (2013). Individual Differences in the Effectiveness of Error Management Training for Developing Negotiation Skills. *International Journal of Selection and Assessment, 21*(1), 1-21. doi: 10.1111/ijsa.12013

This study investigated whether the effectiveness of an error management approach to training negotiation knowledge and skill depended on individual differences in conscientiousness, extraversion, and openness to experience. Participants were randomly assigned to two training programs that incorporated key elements of an error management and behavioral modeling approach to training, and were trained in the complex interpersonal skill of negotiation. At the end of training, declarative knowledge acquisition, procedural knowledge acquisition, declarative knowledge retention, and transfer performance were assessed at different points in time. Results suggested that the effectiveness of the error management training program was dependent on individual levels of conscientiousness and extraversion. For several learning outcomes, the performance of highly conscientious and extraverted individuals was superior in the error management condition, while the performance of less conscientious and introverted individuals was superior in the behavioral modeling condition. The implications of these findings, and suggestions for future research, are discussed.

D

Dahl, T. I., Prebensen, N. K., Chen, J. S., & Uysal, M. (2014). 7 Moving People: A Conceptual Framework for Understanding How Visitor Experiences can be Enhanced by Mindful Attention to Interest. *Creating Experience Value in Tourism*, 79.

> You know that feeling you get when you have looked forward to something for a long time and you finally get to experience it? Like finally seeing the rich display of coloured fabrics at a Bangkok textile market, catching a whiff of the chilled, sulphur laced Iceland air or feeling **...**

Damrongpanit, S. (2014). An interaction of learning and teaching styles influencing mathematic achievements of ninth-grade students: A multilevel approach. *Educational Research and Reviews* 9(19): 771-779 *

> The purposes of this study were to explore students' learning styles and teachers' teaching styles and study the effects and interaction effects of learning styles and teaching styles on mathematics achievements. The subjects were 3382 ninth-grade students and 110 mathematics teachers. The main results revealed that most students were categorized in the Honey/Mumford reflector style (26.11%), whereas most teachers were categorized in the facilitator style (34.55%). Also, the two groups of learning styles and the three groups of teaching styles had direct effects significantly, and they had (76.47%) interaction effects in all matching between them (30.77% matching and 69.23% mismatching) on mathematics achievements. The theorist students were the most advantageous group whereas the reflector students were the most disadvantageous group in learning mathematics.

Dellaportas. S. & Hassall, T. (2013). Experiential learning in accounting education: A prison visit. *The British Accounting Review* 45(1): 24-36

> Traditional pedagogic methods in accounting education have been the subject of some criticism with potential solutions referring to out of classroom experiences. This paper relies on the concepts of situated and experiential learning to assess the effects of a learning opportunity involving visits to prison by students enrolled in the final year of an accounting degree program. Data collected from a self-designed survey suggest that the students were intellectually and emotionally engaged in the experience emanating from the novelty and anticipation of entering closed walls and meeting inmates who were former professional accountants. Students appeared to learn a number of lessons including the nature of conflicts faced by professional accountants, factors contributing to fraudulent conduct, and strategies on how they might deal with such conflicts in their professional careers.

DeLyser, D., Potter, A. E., Chaney, J., Crider, S., Debnam, I., Hanks, G., . . . Seemann, J. (2013). Teaching Qualitative Research: Experiential Learning in Group-Based Interviews and Coding Assignments. *Journal of Geography, 112*(1), 18-28. doi: 10.1080/00221341.2012.674546

> This article describes experiential-learning approaches to conveying the work and rewards involved in qualitative research. Seminar students interviewed one another, transcribed or took notes on those interviews, shared those materials to

create a set of empirical materials for coding, developed coding schemes, and coded the materials using those schemes. Students' input reveals that these assignments were more effective than readings and discussions in conveying the challenges and rewards of qualitative research. In particular, the coding assignment revealed the labor involved in doing qualitative research, but also the insights qualitative research can lead to. Others are urged to try similar assignments.

Demirhan, E., Onder, I. & Besoluk, S. (2014). Brain based biology teaching: Effects on cognitive and affective features and opinions of science teacher trainees. *Journal of Turkish Science Education.* 11(3): 65-78 *

This study investigates the effectiveness of a brain based teaching approach on biology achievement, attitude, critical thinking disposition and self-efficacy scores of science teacher trainees. Also, science teacher trainees' opinions about brain based teaching were investigated. A mixed method approach was used in the current research and it was composed of two parts: Part A and Part B. Part A was comprised of a sample of 65 science teacher trainees and Part B was composed of nine science teacher trainees. The results of Part A revealed no significant effect of the teaching method on achievement, attitude, critical thinking disposition and self-efficacy scores. On the other hand, the results of Part B showed brain based teaching to some extent affects cognitive, affective and metacognitive features. This is similar to the results of some other studies. This study also indicated that various factors may affect students' cognitive and affective features besides the teaching method.

Demirtas, Z. (2014). A scale development study for learning schools. *Mevlana International Journal of Education.* 4(3): 1-12 *

This is a scale development study, conducted with the participation of 342 teachers who were working at Elazığ city center. Data were collected by using a questionnaire developed by Türkoğlu and Güçlü (2003) which does not consist explanatory and confirmatory factor analysis. Explanatory and Confirmatory factor analysis were done in the context of this study. The EFA conducted on Güçlü and Türkoğlu's (2003) 42-item questionnaire showed no meaningful relationship between the factors obtained and the dimensions of the original questionnaire. Owing to this, a two-stage method was utilized to obtain a five-dimensional scale. In the first stage, items forming each dimension were taken as a scale in themselves (subscale) and subjected to exploratory factor analysis. As a result of this analysis, a five-factor structure emerged. In the second stage, the subscales were considered to be the sub dimensions of a single scale; the remaining items were subjected to exploratory factor analysis once again; and significant findings were obtained. Thereafter, first and second stage CFA was conducted with the help of an SEM package program in order to test the five factor structure of the scale after exploratory analysis. In sum, the "Scale of Learning Schools" aiming to identify the learning capacity of schools and obtained by conducting EFA and CFA is a valid and reliable measurement tool.

DiGiovanni, L. (2013). The Impact of Learning Style on Healthcare Providers' Preference for Voice Advisory Manikins Versus Live Instructors in Basic Life Support Training. Unpublished Doctoral Dissertation Walden University*

> The American Heart Association's HeartCode™ Healthcare Provider (HCP) Basic Life Support (BLS) e-learning program with voice-advisory manikins was implemented in an acute care hospital as the only teaching method offered for BLS certification. On course evaluations, healthcare provider staff commented that the VAM technology for skills practice and testing did not match the ways they liked to learn. The purpose of this sequential explanatory mixed methods study was to identify the HCP students' learning styles and to examine if their experience affects their preference of using the VAM verses a live instructor for BLS skills practice and testing. This study used the Kolb's Learning Style Inventory to determine the healthcare provider students' learning styles and the VAM Preference Tool was used to quantify their experience using the VAM technology for skills practice and testing. One-on-one interviews explored the students' experience of working with the VAM. Findings from both quantitative and qualitative data supported that there is no statistically significant difference in preference for using the VAM rather than a live instructor for BLS skills testing among Kolb's 4 learning styles. The participants, regardless of learning style, preferred to have the assistance of a BLS instructor during the use of VAM technology for HeartCode BLS Part 2 skills practice and testing. This research contributes to social change by providing evidence that supports best practices for a successful HeartCode BLS implementation that promotes student satisfaction, thus benefiting the facility's healthcare providers, hospital administration, and other organizations' training center coordinators.

Doos, M., Johansson, P. & Wilhelmson, L. (2014). Organizational Learning as an Analogy to Individual Learning? A Case of Augmented Interaction Intensity. *Vocations and Learning.* DOI 10.1007/s12186-014-9125-9 *

> This paper attempts to explore an analogy between individual and organizational learning within experiential learning theory (ELT). The focus is on both the possibility of identifying a learning subject that learns in action, and on the genesis process behind the learning of a suggested learning subject at organizational level. The exploration uses an empirical study of a global software communication organization. The research adopts a qualitative approach, with data from three middle-management layers of a research and development (R&D) unit with 5,000 employees. During the study, shifts of emphasis occurred between two organizational logics, which required work-integrated learning. Metaphorically speaking, the organization was portrayed as 'teeming with interaction', and a growing wave of change decisively altered both the thinking and work processes within the organization. The organizational learning process is theoretically understood as an 'augmented intense interaction' around a specific content. The subject that learns and upholds the outcome is suggested to be the teeming activity, comprehended as a living organism. In practice, the awareness of an organization as a body that teems with interaction has potential to offer new understanding about how to manage change.

Drew, T. M. (2014). *Learning style, seat preference, and past profession: Predicting traditional osteopathic student achievement* (Doctoral dissertation, Capella University).

The study was designed to examine the predictive relationship between the variables of seat preference, learning style, and past profession, and student achievement. A convenience sample of $N = 248$ traditional manual osteopathic students of two Canadian and one Swiss accredited English speaking part-time colleges was recruited for the quasi-experimental predictive study. The participants were adult learners ranging in age from $20 - 69$ years with 71% of the sample being female in accordance to the population demographic. The data collection included grade score, learning style as measured by the Learning Style Inventory (LSI 3.1), and a researcher designed survey, Demographic and Seat Preference Survey (DSPS), which gathered information on age, past profession, education, sensory deficits, and seat preferences of three seat diagrams. A multiple regression analysis was used to create the predictive equation. The variables seat preference, learning style, and past profession statistically predicted student achievement $R^2 = .10$, $F(10, 217) = 2.33$, $p = .01$, power .92. The specific variables action seat in the 10 X 5 seating plan $b_{1\,10X5AS} = 2.91$, $t(217) = 2.51$, $p = .01$, 95%CI[0.63, 5.20]; the professions of athletic therapy $b_{2\,AT} = 4.60$, $t(217) = 2.77$, $p = .01$, 95%CI[1.33, 7.86], Nurse/kinesiologist/occupational therapist $b_{2\,NR/KIN/OT} = 4.10$, $t(217) = 2.54$, $p = .01$, 95%CI[0.92, 7.27], and Other profession $b_{2\,OTHER} = 3.48$, $t(217) = 2.26$, $p = .03$, 95%CI[0.45, 6.52]; and the diverging learning style $b_{5diverging} = -3.03$, $t(217) = -2.13$, $p = .03$, [-5.83, -0.23] contributed significantly to the prediction. In pair-wise comparisons there were significant ($p < .05$) differences in mean achievement scores between the professions of athletic therapists, nurse/kinesiologists/occupational therapists, and other professions, and medical doctor/osteopathic physician/dentist, and massage therapists;

between students preferring the assimilating learning style and students preferring the diverging learning style; and between the 10 X 5 action seats and non-action seats. The findings of the study support the predictive nature of past professions, learning style, and action seat preference in an English-speaking accredited part-time traditional manual osteopathic program. Recommendations for continued data collection and investigating the variables of first language and campus location are made.

E

Edelbring, S. (2013). Research into the use of virtual patients is moving forward by zooming out. *Medical Education, 47*(6), 544-546. doi: 10.1111/medu.12206*

Edwards, G., Elliott, C., Iszatt-White, M., & Schedlitzki, D. (2013). Critical and alternative approaches to leadership learning and development Introduction. *Management Learning, 44*(1), 3-10. doi: 10.1177/1350507612473929
> This article is the introduction to the special issue on 'Critical and Alternative Approaches to Leadership Learning and Development'. This article reviews the past approaches to researching and theorising about leadership learning and development and proposes a shift towards critical and alternative approaches. This article then describes the various articles in the special issue and how they contribute towards this paradigm shift.

Ekici, G. (2013). The Analysis of Teacher Candidates' Learning Styles in Terms of Gender and Overall Academic Success According to Gregorc and Kolb Learning Style Models. *Egitim Ve Bilim-Education and Science, 38*(167), 211-225. $
> The aim of this study is to analyze teacher candidates' learning styles in comparison with gender and overall academic success according to Gregorc and Kolb learning style models. The study followed a descriptive model. As the measurement scale, "Gregorc Learning Style Scale" and "Kolb Learning Style Inventory" were used. A total of 297 teacher candidates participated in the study and the data were analyzed by using descriptive statistics and chi-square test. Although the difference was meaningful according to the gender variable in both models; it is not meaningful in terms of the overall academic success. As a result; according to the evaluation for two different learning styles prepared in cognitive dimension, analysing learning styles regarding different variables in different measurement scales, applied in the same study group, gives results in the same way.

El-Gilany, A. H., & Abusaad, F. E. S. (2013). Self-directed learning readiness and learning styles among Saudi undergraduate nursing students. *Nurse Education Today, 33*(9), 1040-1044. doi: 10.1016/j.nedt.2012.05.003 *

Background: Self-directed learning has become a focus for nursing education in the past few decades due to the complexity and changes in nursing profession development. On the other hand, the Kolb's learning style could identify student's preference for perceiving and processing information. Objectives: This study was performed to determine Saudi nursing students' readiness for self-directed learning; to identify their learning styles and to find out the relation between these two concepts. Design: Cross-sectional descriptive study. Settings: Nursing department of faculty of Applied Medical Sciences, Al-Jouf University, Saudi Arabia. Participants: Two hundred and seventy-five undergraduate Saudi nursing students. Methods: Data was collected using self-administered questionnaires covering the demographic features of students, Fisher's self-directed learning readiness (SDLR) scale, and the Kolb's learning styles inventory. Results: The mean scores of self-management, desire for learning, self-control and the overall SDLR were 513 +/- 5.9, 48.4 +/- 5.5, 59.9 +/- 6.7, and 159.6 +/- 13.8; respectively. About 77% (211) of students have high level of SDLR. The percentages of converger, diverger, assimilator and accommodator learning styles are 35.6%, 25.8%, 25.55% and 13.1%; respectively. The mean score of self,management, desire for learning, self-control and overall SDLR scale did not vary with any of the studied variables. There is no association between the level of SDLR and the learning styles. Conclusions: The high level of SDLR and the dominant converger learning style among undergraduate nursing students will have a positive implication for their education and post-employment continuing nursing education. (C) 2012 Elsevier Ltd. All rights reserved.

Erez, M., Lisak, A., Harush, R., Glikson, E., Nouri, R., & Shokef, E. (2013). Going Global: Developing Management Students' Cultural Intelligence and Global Identity in Culturally Diverse Virtual Teams. *Academy of Management Learning & Education, 12*(3), 16-41. doi: 10.5465/amle.2012.0200

Taking a constructivist, collaborative experiential learning approach to education and training of global managers, we designed an on-line, 4-week virtual multicultural team project and tested its effect on the development of management students' cultural intelligence, global identity, and local identity. The total sample of 1221 graduate management students, assigned to 312 virtual multicultural teams, consisted of four cohorts, each participating in one 4-week project; one project was conducted every year between 2008 and 2011. All projects were designed in the same way, according to principles of collaborative experiential learning, and offered a psychologically safe learning environment that enabled trust building. Data on cultural intelligence, global identity, and local identity were collected by way of web-based questionnaires at the beginning and at the end of the project, as well as 6 months later. Team trust was assessed in the middle of the project. Hierarchical linear modeling analyses revealed that cultural intelligence and global identity, but not local identity, significantly increased over time and that this effect lasted for 6 months after the project had ended. Trust as a team level factor moderated the project's effect on team members' cultural intelligence and global identity, with significant effects under moderate to high rather than low levels of trust.

F

Fee, A., & Gray, S. J. (2013). Transformational learning experiences of international development volunteers in the Asia-Pacific: The case of a multinational NGO. *Journal of World Business, 48*(2), 196-208. doi: 10.1016/j.jwb.2012.07.004

While most MNE activity in Asia and the Pacific focuses on rapidly developing and newly industrialized economies, multinational NGOs have for decades provided important financial, human and social capital to poorer nations in the region. Our study examines the learning experiences of a sample of expatriate volunteer workers deployed by the Asia-Pacific's largest international volunteer agency. Our field research shows that, when compared to a control group, the expatriates' learning was unique in terms of context, process and outcomes. Notably, expatriates experienced learning outcomes that were more frequently transformational, involving fundamental changes to their values, perspectives or assumptions. (C) 2012 Elsevier Inc. All rights reserved.

Fourqurean , J. M., Meisgeier, C. & Swank, P. (2014). The Link Between Learning Style and Jungian Psychological Type. *The Journal of Experimental Education* (Impact Factor: 1.09). 04/2014; 58(3):225-237. DOI: 10.1080/00220973.1990.10806537

ABSTRACT This study examined the link between learning style and Jungian psychological type. A large sample of ninth-grade students was administered the Dunn and Dunn Learning Style Inventory, the Renzulli-Smith Learning Style Inventory, and the Murphy-Meisgeier Type Indicator for Children (MMTIC). Canonical correlation procedures indicated the presence of two bipolar learning preferences characterized by a reflective learner-active learner (introversion-extraversion) dimension and a structured/motivated-unstructured/casual (judging-perception) dimension. It is suggested that the MMTIC's Extraversion-Introversion and Judging-Perception scales may be alternatively conceptualized as useful measures of learning style. Educational implications and recommendations are discussed.

Fransen, J., Weinberger, A., & Kirschner, P. A. (2013). Team Effectiveness and Team Development in CSCL. *Educational Psychologist, 48*(1), 9-24. doi: 10.1080/00461520.2012.747947

There is a wealth of research on computer-supported cooperative work (CSCW) that is neglected in computer-supported collaborative learning (CSCL) research. CSCW research is concerned with contextual factors, however, that may strongly influence collaborative learning processes as well, such as task characteristics, team formation, team members abilities and characteristics, and role assignment within a team. Building on a critical analysis of the degree to which research on CSCW translates to CSCL, this article discusses the mediating variables of teamwork processes and the dynamics of learning-teams. Based on work-team effectiveness models, it presents a framework with key variables mediating learning-team effectiveness in either face-to-face or online settings within the perspective of learning-team development.

Frisby, B. N., Sellnow, D. D., Lane, D. R., Veil, S. R., & Sellnow, T. L. (2013). Instruction in crisis situations: Targeting learning preferences and self-efficacy. *Risk Management-an International Journal, 15*(4), 250-271. doi: 10.1057/rm.2013.7

This study employs instructional communication and crisis communication theoretical frameworks to experimentally examine messages tailored to learning style preferences to

determine their effect on receivers' perceived efficacy to take self-protective measures during a crisis event. In the first phase of the study, participants (N=254) viewed manipulated instructional media messages in the form of simulated news reports that reflected one of four learning styles. Results revealed no significant differences in perceived self-efficacy based on receiver learning style preference or message manipulation tailored to specific learning styles, but there was an interaction effect. In the second phase, participants (N=123) completed pre-test and post-test measures of self-efficacy and watched a message that either matched or mismatched their learning style preference. Overall, participant self-efficacy significantly increased at post-test. However, none of the tailored messages significantly increased post-test self-efficacy over the others. The results extend both instructional communication and crisis management research, and provide avenues for future research utilizing instructional theories and frameworks and message tailoring to influence crisis management, instructional message design and self-protection efficacy.

G

Galagan, P. (2014 January) Learning styles: Going, going, almost gone. *Training and Development Magazine*

> Learning styles theory, although not on the rocks of full discredit, is in the dangerous shoals of scientific questioning. Research during the past five years has undermined the validity of learning styles—a popular belief that people learn best through a particular "modality" such as hearing, seeing, or manipulating objects, and that training should accommodate people's learning styles to be more effective.

Gardner, R. (2013). Introduction to debriefing. *Seminars in Perinatology, 37*(3), 166-174. doi: 10.1053/j.semperi.2013.02.008

> Debriefing is a lynchpin in the process of learning. As a post-experience analytic process, debriefing is a discussion and analysis of an experience, evaluating and integrating lessons learned into one's cognition and consciousness. Debriefing provides opportunities for exploring and making sense of what happened during an event or experience, discussing what went well and identifying what could be done to change, improve and do better next time. This manuscript serves as an introduction to debriefing, covering a range of topics that include a brief review of its origin, the structure and process of debriefing specifically in the context of simulation-based medical education, and factors that facilitate effective, successful debriefing. An approach to debriefing immediately after real clinical events will be presented, as well as an evidence-based approach to evaluating debriefing skills of healthcare simulation instructors.

Garrett Jr, R. E. (2014). Active Development of Tacit Knowledge: ADTK In a World Without Farmers. *Capstone Collection* paper 2642 *

Experiential Learning Theory (ELT) and extensions such as Transformative Learning Theory offer significant potential for skill development later in life – reskilling. Despite wide acceptance and deployment, practitioners are still obliged to design their own methods and activities in order to implement these theories. This paper introduces a novel curricular model, Active Development of Tacit Knowledge (ADTK). Educators can use ADTK to effectively implement and scale ELT. Agricultural Education, specifically the training of new farmers, is used as a sample context to demonstrate ADTK. In new-farmer education, it is necessary to compress the educational cycles of dozens of years of seasonal feedback and generations of familial knowledge to replicate a farm upbringing, often within just weeks or months. Increasing global demand for farm products along with economic constraints limit options for learn by doing on the farm where a poor understanding of natural processes can cause a new farmer to irreparably harm the environment of production. Globally, highly productive farmers are aging out of production, adding urgency to the demand for competent new producers. The combination of system stresses requires teaching methodology that accurately develops frequent and repetitive on-farm decision-making processes that are production environment centered. Yet many new practitioners possess pre-existing and variable skills, knowledge, or information that may not be compatible with their successful farm management needs. ADTK encourages learners to draw out tacit knowledge and restructure pre-existing beliefs with new information into a stable foundation from which a more complex theoretical development and mastery of skills can evolve.

Z. Geh, E. (2014). Organizational spiritual leadership of worlds "made" and "found" An experiential learning model for "feel". *Leadership & Organization Development Journal*, *35*(2), 137-151. *

Purpose - The purpose of this paper is to introduce and define the concepts of "energy" and "feel" into understanding organizational spiritual leadership. It does so through the following. First, it offers a view of workplace spirituality by defining the role of organizational spiritual leadership. Second, it introduces the metaphors of "made" as well as "found" organizational worlds, reflecting a constructivist and positivist perspective, respectively, and highlight their relevance to organizational spirituality. Third, it adapts David Kolb's experiential learning model to articulate an experiential

learning model for navigating feel in both "made" and "found" worlds. Finally, it derives implications for leadership and organizational development research and practice in the context of workplace spirituality moving forward.

Design/methodology/approach - This is a conceptual paper. It explores the ideas of "feel," "energy," and "inspiration" in the context of organizational spirituality. It also articulates an experiential learning model for navigating feel by taking into considering the constructivist and positivistic ontological perspectives embodied in the metaphors "made" and "found." Research limitations/implications - This conceptual paper invites a re-consideration of commonly understood concepts such as motivation, and performance in the context of organizational spirituality. Practical implications - This paper includes telling implications for leaders seeking to understand the increasingly important concept of workplace spirituality. It invites them to seek to better understand why and how organizational spirituality matters to themselves and the people they lead. It prompts them to reconsider the value of important organizational constructs and their continued relevance in a rapidly changing workplace. Originality/value - To the best of the author's knowledge, this paper introduces an original conceptual experiential learning model for navigating "feel" in both "made" and "found" organizational worlds in the study of organizational spirit

Girvan, C., Tangney, B., & Savage, T. (2013). SLurtles: Supporting constructionist learning in Second Life. *Computers & Education, 61*, 115-132. doi: 10.1016/j.compedu.2012.08.005

Constructionism places an emphasis on the process of constructing shareable artefacts. Many virtual worlds, such as Second Life, provide learners with tools for the construction of objects and hence may facilitate in-world constructionist learning experiences. However, the construction tools available present learners with a significant barrier (or 'high-floor') for the novice to first master. To address this problem, this paper presents the design concepts, first implementation and analysis of SLurtles (programmable turtles in Second Life), easy-to-use, programmable construction tools for use in Second Life. During a pilot study 24 postgraduate learners in pairs and working at distance from one another, programmed SLurtles to create interactive installations in Second Life over four weeks. Open interviews were conducted, chat logs recorded and learners artefacts and reflections were collected and analysed using qualitative methods. Findings show that SLurtles provide learners with a programmable, low-floor, high-ceiling and wide-wall construction tool, which supported their construction of a wide range of complex artefacts as part of a constructionist learning experience in Second Life. (C) 2012 Elsevier Ltd. All rights reserved.

Glover, S. R., Sewry, J. D., Bromley, C. L., Davies-Coleman, M. T., & Hlengwa, A. (2013). The Implementation of a Service-Learning Component in an Organic Chemistry Laboratory Course. *Journal of Chemical Education, 90*(5), 578-583. doi: 10.1021/ed2008153

Education institutions globally are increasingly expected to explore avenues for the implementation of service-learning into their curricula. A second-year undergraduate organic chemistry laboratory experiment, in which the undergraduate students make azo dyes, can provide a vehicle for a service-learning module in which university undergraduate students then teach students from resource-limited secondary schools how

to make azo dyes. Evidence is provided to show how the theory is reinforced for both sets of students through a shared practical experience. The practical application of chemistry is conveyed through the use of the synthetic azo dyes to dye t-shirts. The results of this study show that the service-learning experience clearly assists undergraduate students to appreciate the role of chemists in the broader society while at the same time increasing awareness of the inequalities in school education systems.

Gold, L. (2014) *Altered experience in dancing: An investigation into the nature of altered experience in dancing and pedagogical support.* Doctoral dissertation Theatre Academy, Performing Arts Research Centre Helsinki Finland*

Goldstein, P. A., Storey-Johnson, C. & Beck, S. (2014). Facilitating the initiation of the physician's professional identity: Cornell's urban semester program. *Perspectives on medical education* 11/2014; DOI: 10.1007/s40037-014-0151-y*

ABSTRACT Calling for major reform in medical education, the Carnegie Institute report 'Educating Physicians' espoused the importance of assisting student trainees in forming their professional identities. Here, we consider the question: At what educational stage should future physicians begin this process? The literature suggests that the process begins when students matriculate in medical school; we posit, however, that premedical students can begin their proto-professional development as college undergraduates. We describe here the pedagogy of Cornell University's urban semester program (USP), which enables college students to participate in shadowing experiences as part of an integrated structured study programme. USP students report improved communicative competency, changes in their perceptions and attitudes toward medical practice, and powerful influences on their personal and professional development upon completion of the programme. We suggest the solution to the question of 'When and under what conditions should shadowing take place?' is to utilize a structure that combines the exposure of college students to the professional environment with a didactic and self-reflective curriculum, thereby supporting students in their early professional development. We conclude that educational efforts aimed at developing professional identity and behaviour can begin before students enter medical school.

Good, D. (2014). Predicting real-time adaptive performance in a dynamic decision making context. *Journal of Management and Organization.* 20(6): 715-732*

Abstract

Individuals in organizations must frequently enact a series of ongoing decisions in real-time dynamic contexts. Despite the increasing need for individuals to manage dynamic decision-making demands, we still understand little about individual differences impacting performance in these environments. This paper proposes a new construct applicable to adaptation in such real-time dynamic environments. Cognitive agility is a formative construct measuring the individual capacity to exhibit cognitive flexibility, cognitive openness and focused attention. This study predicts that cognitive agility will impact adaptive performance in a real-time dynamic decision-making microworld computer game called the Networked Fire Chief; a simulation developed to study and train Australian fire fighters. Cognitive agility, operationalized through three distinct methods (performance measures, self-reports and external-rater reports), explained unique variance beyond measures of general intelligence on the total score of adaptive performance in the microworld.

Goodyear, H. M., Bindal, T., & Wall, D. (2013). How useful are structured electronic Portfolio templates to encourage reflective practice? *Medical Teacher, 35*(1), 71-73. doi: 10.3109/0142159x.2012.732246

> Background: Some specialties in the UK use structured templates in electronic (e) Portfolios to encourage reflective practice. This study looked at completion of an 11-field template by UK Paediatric specialty trainees. Methods: A reflective ePortfolio log from all Paediatric specialty trainees in one large UK deanery was assessed by two medical educators. The consultant supervisors' opinion of the trainee's standard of reflective practice and outcome of annual review of competence progression was noted. Results: If the 115 trainees, 10 had no reflective logs and 105 had reflective logs ranging in number from 1 to -18 (mean of 5). The structured template was poorly completed by trainees especially sections on what could be done differently and outcomes for the trainee, parents and others. Discrepancy between the evidence of reflection in ePortfolio and trainers assessment of reflective practice was noted. Conclusion: An 11-field structured template for reflective practice was not completed well. We suggest four fields as a maximum so as to enable trainees to reflect and note their personal key learning points. There needs to be an emphasis on quality rather than quantity of ePortfolio reflective logs, both in number and length of log aiming for 1-2 well completed reflections per post.

Greenberg, L., & Ottolini, M. (2014). The clerkship orientation. *Guidebook for Clerkship Directors*, 31. *

> In this chapter we suggest topics you may want to include in the orientation. Many are based on adult learning principles and evidence-based literature that documents effective learning.[1] The overriding philosophy of each clerkship should help students become more self-directed learners by empowering them to be responsible for their own learning while emphasizing the overarching goal of improving the health of patients. Understanding and meeting the needs of patients should frame the clinical educational process. Some of the issues covered during orientation should first be introduced earlier in the medical school curriculum and, therefore, represent a continuum into the clinical years (Table 1).

Groves, M., Leflay, K., Smith, J., Bowd, B., & Barber, A. (2013). Encouraging the development of higher-level study skills using an experiential learning framework. *Teaching in Higher Education, 18*(5), 545-556. doi: 10.1080/13562517.2012.753052 $

> Teachers have only recently considered how study skills support in higher education (HE) can be delivered in a way that encourages experiential learning. This paper aims to substantiate, or otherwise, the idea that a carefully developed initiative can encourage the experiential learning of study skills. In addition, it considers whether such an approach might also allow student access to some of the higher-level study skills required for successful university study. Focus group data were used to evaluate a module delivered to sports students at a post-1992 university in the UK. This data suggested that the module facilitated learning in each stage of Kolb's experiential learning cycle. Moreover, there was evidence that the module encouraged students to undertake an epistemological shift' in which they moved from seeing knowledge as a set of uncontested facts to seeing it as something that they are expected to question and contribute to themselves.

H

Haines, C., Dennick, R., & da Silva, J. A. P. (2013). Developing a professional approach to work-based assessments in rheumatology. *Best Practice & Research in Clinical Rheumatology, 27*(2), 123-136. doi: 10.1016/j.berh.2013.02.006

> This chapter discusses how doctors in key European countries develop and maintain professional standards of clinical knowledge in their specialism, rheumatology, with particular reference to how they are assessed in the workplace. The authors discuss key educational theories related to learning and assessment, including experiential learning, reflective practice, how formative and summative assessments drive experiential learning and the essential principles of reliability and validity. This chapter also considers the challenge of ensuring that professional attitudes towards assessment and reflective practice are developed alongside cognitive and practical skills, with reference to current frameworks, including the UK and North America. The chapter lists, describes and explains the main summative assessments used in postgraduate medicine in the UK. We advocate the development of the professional reflective-practitioner attitude as the best way of approaching the range of work-based assessments that trainees need to engage in. Our account concludes by briefly discussing the barriers that may impede professional approaches to assessing competence in rheumatology. A summary states how individual practitioners may contribute to a more effective process in their roles as assessors and trainees.

Haines, D. (2013). "More Aware of Everything": Exploring the Returnee Experience in American Higher Education. *Journal of Studies in International Education, 17*(1), 19-38. doi: 10.1177/1028315311433207

> At the intersection of the topics of migration and diversity in higher education lies the experience of people who grow up overseas, or who go overseas for education or military service, and then return as college students. This article addresses their experience, drawing from a series of exploratory interviews conducted-as part of a broader distributed research process on diversity-at one particularly diverse American university. The overseas experience, as would be expected, generally broadens student perspectives but also individuates them by first removing people from existing personal networks and established cognitive routines, then inserting them into new networks and cognitive patterns overseas, and finally reinserting them back into a "home" situation in the United States that is both familiar and now newly alien. The legacies of return thus include a resorting and reconfiguration of notions of self and identity as well as those of family, community, and nation. Overall, the process suggests a useful parallel between the student as traveler and the traveler as student. There is also a warning in this material that much human diversity involves very individualized experiences that may be overlooked in the more generalized literatures on education (especially higher education) and human mobility.

Harasym, P. H., Tsai, T. C., & Munshi, F. M. (2013). Is problem-based learning an ideal format for developing ethical decision skills? *Kaohsiung Journal of Medical Sciences, 29*(10), 523-529. doi: 10.1016/j.kjms.2013.05.005

> Ethical decision making is a complex process, which involves the interaction of knowledge, skills, and attitude. To enhance the teaching and learning on ethics reasoning,

multiple teaching strategies have to be applied. A medical ethical reasoning (MER) model served as a framework of the development of ethics reasoning and their suggested instructional strategies. Problem-based learning (PBL), being used to facilitate students' critical thinking, self-directed learning, collaboration, and communication skills, has been considered effective on ethics education, especially when incorporated with experiential experience. Unlike lecturing that mainly disseminates knowledge and activates the left brain, PBL encourages "whole-brain" learning. However, PBL has several disadvantages, such as its inefficiency, lack of adequately trained preceptors, and the in-depth, silo learning within a relatively small number of cases. Because each school tends to utilize PBL in different ways, either the curriculum designer or the learning strategy, it is important to maximize the advantages of a PBL session, PBL then becomes an ideal format for refining students' ethical decisions and behaviors. Copyright (c) 2013, Kaohsiung Medical University. Published by Elsevier Taiwan LLC. All rights reserved.

Hardy, C. & Tolhurst, D. (2014). Epistemological beliefs and cultural diversity matters in management education and learning: A critical review and future directions. *Academy of Management Learning and Education.* 13(2):265-289 *

Global business environments and the internationalization of education have positioned management education as a global phenomenon. However, the cultural mixing effects of globalization are complex, with the increasing mobility of academics and students in higher education programs offered by different countries, virtual environments, and global organizations. This presents challenges as to how we can best make our programs, pedagogic efforts, and learning environments responsive to multiple cultures given that they are largely imbued with Western or Anglo-American values tied to business schools. We argue that these matters bring into focus the impact of culture on individual beliefs about knowledge and learning behaviors. Our contention is that important insights can be distilled from the well-established field of research on culture and epistemological beliefs. We synthesize the extant research, and building on this synthesis, we analyze the potential of this scholarly work to augment culture and management learning, education, and development (MLED) research and point toward promising areas for future research.

Harris, P. (2014). The youth worker as jazz improviser: foregrounding education 'in the moment' within the professional development of youth workers. *Professional Development in Education* 08/2014; 40(4):654-668. DOI: 10.1080/19415257.2014.902858 *

This paper argues for the foregrounding of improvisation and education 'in the moment' within youth workers' professional development. Devised in collaboration with third-year Youth and Community Work students and lecturers at a university in Birmingham, this participatory action research project drew on work of jazz ethnomusicologists and educationalists that details the extensive preparation involved in acquiring the ability to improvise within jazz in order to counter the misconception of youth work as educational practice 'on the wing'. Through analysis of students' reflective writing, lecturer feedback, interviews with lecturers and video footage of students leading improvised dialogues with their peers, the study sheds light on the challenges and possibilities involved in the teaching and assessment of improvisation in youth work and suggests that students can be encouraged to actively structure their awareness of improvisation and take responsibility for developing a disposition towards it. The author argues that this is important, not only because such improvised practice 'works' instrumentally in terms of engaging young people, many of whom are disengaged from formal education, but because it is also closely aligned ideologically with the value-driven purpose of youth work.

Harris, K. R., Eccles, D. W., Ward, P., & Whyte, J. (2013). A Theoretical Framework for Simulation in Nursing: Answering Schiavenato's Call. *Journal of Nursing Education, 52*(1), 6-16. doi: 10.3928/01484834-20121107-02

> The aim of this article was to provide a response that supports and extends Schiavenato's call for a theoretically guided approach to simulation use in nursing education. We propose that a theoretical framework for simulation in nursing must first include, as a basis, a theoretical understanding of human performance and how it is enhanced. This understanding will, in turn, allow theorists to provide a framework regarding the utility, application, and design of the training environment, including internal and external validity. The expert performance approach, a technique that recently has been termed Expert-Performance-based Training (ExPerT), is introduced as a guiding framework for addressing these training needs. We also describe how the theory of deliberate practice within the framework of ExPerT can be useful for developing effective training methods in health care domains and highlight examples of how deliberate practice has been successfully applied to the training of psychomotor and cognitive skills.

Harwood, T. (2013). Machinima as a learning tool. *Digital Creativity, 24*(3), 168-181. doi: 10.1080/14626268.2013.813375

> This article proposes that machinima is a practice-based approach to learning digital creative practice. It features excerpts from key informant interviews with six prominent machinima artists: it is the first time they have been brought together to consider the role of machinima as a learning tool from their different perspectives. The article begins with a review of machinima as an example of digital creative practice, akin to mashup and remix genres. The nature of machinima is presented through interviews, providing an overview of its authenticity, roles of networks and communities of practice, transdisciplinary creative practice, transliteracy, transferability and accessibility as a

learning tool in developing competency in digital creativity. It is suggested that machinima is digital clay' that has the potential to add value to practice-based learning in a connected world. The article concludes with a summary of the unique contributions that machinima gives the creative learning process.

Heaton, J. (2014). The open and closed skill concept: A view through the prism of snow sports. *Snowpro* p.28 *

Heikkila, T., & Gerlak, A. K. (2013). Building a Conceptual Approach to Collective Learning: Lessons for Public Policy Scholars. *Policy Studies Journal, 41*(3), 484-512. doi: 10.1111/psj.12026
In public policy processes, collective learning among policy actors is important in shaping how these processes unfold and the types of policy outcomes that may result. Despite a widespread interest in learning by policy scholars, researchers face a number of conceptual and theoretical challenges in studying learning across different collective settings within policy processes. In this article, we offer a theoretically grounded approach to defining and understanding collective-level learning. In defining learning, we first draw out the connection between learning processes and learning products, both cognitive and behavioral. In examining learning processes, we further explore the relationship between individual and collective learning. Then we identify and define the key characteristics of collective settings that will likely influence learning processes. We conclude by offering recommendations for policy scholars to apply this approach in studies of learning across diverse policy contexts.

Heon. F., Davis, A.,Jones-Patulli, J. & Damart, S. (2014). *The essential Mary Parker Follett: Ideas we need today.* Published by the authors.

Herrmann-Werner, A., Nikendei, C., Keifenheim, K., Bosse, H. M., Lund, F., Wagner, R., . . . Weyrich, P. (2013). "Best Practice" Skills Lab Training vs. a "see one, do one" Approach in Undergraduate Medical Education: An RCT on Students' Long-Term Ability to Perform Procedural Clinical Skills. *Plos One, 8*(9). doi: 10.1371/journal.pone.0076354
Background: Benefits of skills lab training are widely accepted, but there is sparse research on its long-term effectiveness. We therefore conducted a prospective, randomised controlled-trial to investigate whether in a simulated setting students trained according to a "best practice" model (BPSL) perform two skills of different complexity (nasogastral tube insertion, NGT; intravenous cannulation, IVC) better than students trained with a traditional "see one, do one" teaching approach (TRAD), at follow-up of 3 or 6 months. Methodology and Principal Findings: 94 first-year medical students were randomly assigned to one of four groups: BPSL training or TRAD teaching with follow-up at 3 (3M) or 6 (6M) months. BPSL included structured feedback, practice on manikins, and Peyton's "Four-Step-Approach", while TRAD was only based on the "see one - do one" principle. At follow-up, manikins were used to assess students' performance by two independent blinded video-assessors using binary checklists and a single-item global assessment scale. BPSL students scored significantly higher immediately after training (NGT: BPSL3M 94.8%+/- 0.2 and BPSL6M 95.4%+/- 0.3 percentage of maximal score +/- SEM; TRAD3M 86.1%+/- 0.5 and TRAD6M 84.7%+/-

0.4. IVC: BPSL3M 86.4%+/- 0.5 and BPSL6M 88.0%+/- 0.5; TRAD3M 73.2%+/- 0.7 and TRAD6M 72.5%+/- 0.7) and lost significantly less of their performance ability at each follow-up (NGT: BPSL3M 86.3%+/- 0.3 and TRAD3M 70.3%+/- 0.6; BPSL6M 89.0%+/- 0.3 and TRAD6M 65.4%+/- 0.6; IVC: BPSL3M 79.5% +/- 0.5 and TRAD3M 56.5%+/- 0.5; BPSL6M 73.2%+/- 0.4 and TRAD6M 51.5%+/- 0.8). In addition, BPSL students were more often rated clinically competent at all assessment times. The superiority at assessment after training was higher for the more complex skill (IVC), whereas NGT with its lower complexity profited more with regard to long-term retention. Conclusions: This study shows that within a simulated setting BPSL is significantly more effective than TRAD for skills of different complexity assessed immediately after training and at follow-up. The advantages of BPSL training are seen especially in long-term retention.

Hickman, R., & Kiss, L. (2013). Investigating Cognitive Processes within a Practical Art Context: A Phenomenological Case Study Focusing on Three Adolescents. *International Journal of Art & Design Education, 32*(1), 97-108. doi: 10.1111/j.1476-8070.2013.01748.x

A phenomenological approach was employed in order to record and present the lived experiences of three students during a five-hour art-making activity. Theoretical definitions of cognitive processes pertinent to art and design were compared with the descriptions gathered from the students. The research was intended to portray as accurately as possible individuals' experiences in order to ascertain whether there is a possibility for soundly ascribing cognitive functions to art-making processes. The descriptions of students' thought processes reveal the ways with which the selected students approach learning and also offer insights into the possible links between cognition and artmaking. The findings of the study suggest that intuitive and perceptive processes are utilised by the chosen participants in a variety of ways. The consideration of the ordering of visual elements is a process that all participants describe within their art making. The students' visual judgements appear to be a direct response to the art-work being made.

Hieronymi, A. (2013). Understanding Systems Science: A Visual and Integrative Approach. *Systems Research and Behavioral Science, 30*(5), 580-595. doi: 10.1002/sres.2215

Systems thinking is considered a much-needed competence to deal better with an increasingly interlinked and complex world. The many streams within systems science have diversified perspectives, theories and methods, but have also complicated the field as a whole. This makes it difficult to understand and master the field. Short introductions to fundamental questions of systems science are rare. This paper is divided into three parts and aims to do the following: (1) to provide a broad overview of the structure and purpose of systems science; (2) to present a set of key systems principles and relate them to theoretical streams; and (3) to describe aspects of systems-oriented methodologies within a general process cycle. Integrative visualizations have been included to highlight the relationships between concepts, perspectives and systems thinkers. Several new attempts have been made to define and organize system concepts and streams in order to provide greater overall coherence and easier understanding. (c) 2013 The Author. Systems Research and Behavioral Science published by John Wiley & Sons, Ltd.

Hoare, L. (2013). Swimming in the deep end: transnational teaching as culture learning? *Higher Education Research & Development, 32*(4), 561-574. doi: 10.1080/07294360.2012.700918

Drawing upon the experiences of a group of academics who were responsible for the teaching and coordination of a newly established offshore program, this study considers intercultural learning during transnational education (TNE) sojourns and demonstrates that the personal and pedagogical adaptation required of academics is significant. The study combines data from pre-, during- and post-sojourn interviews with detailed observations of offshore teaching. This ethnographic methodology provides a detailed account of the TNE experience that is rare in the literature. The study adds support to the contention that the acknowledgement of cultural distance, rather than the adoption of a universalist mindset, is a precondition for development of intercultural competence through transnational teaching. The reflections of the respondents indicate that when transnational educators are prepared to learn from the ambiguity encountered during offshore teaching, they have the capacity to experience personal growth and to add significantly to their university's human capital. The paper argues that this preparedness' to learn should not be left to chance lest it does not eventuate and that the responsibility for development is shared between transnational educators, who must be open to change and prepared to engage in self-reflection that can be confronting, and universities, who must formally recognise the need to provide time, resources and quality, ethical learning interventions in order to facilitate the development of intercultural competence in all staff, especially those who teach overseas.

S. Hodkinson, C., & E. Poropat, A. (2014). Chinese students' participation: the effect of cultural factors. *Education+ Training*, *56*(5), 430-446. *

Purpose–The purpose of this paper is to provide for Western educators of international Chinese and Confucian Heritage Culture (CHC) students the first integrated review of kiasu, the "fear of missing out", and its consequences for learning, teaching, and future research.

Holmes, C. L., Harris, I. B., Schwartz, A. J. & Regehr, G. (2014) Harnessing the hidden curriculum: a four-step approach to developing and reinforcing reflective competencies in medical clinical clerkship. *Advances in Health Sciences Education* 10/2014;
DOI: 10.1007/s10459-014-9558-9 *

ABSTRACT Changing the culture of medicine through the education of medical students has been proposed as a solution to the intractable problems of our profession. Yet few have explored the issues associated with making students partners in this change. There is a powerful hidden curriculum that perpetuates not only desired attitudes and behaviors but also those that are less than desirable. So, how do we educate medical students to resist adopting unprofessional practices they see modeled by supervisors and mentors in the clinical environment? This paper explores these issues and, informed by the literature, we propose a specific set of reflective competencies for medical students as they transition from classroom curricula to clinical practice in a four-step approach: (1) Priming-students about hidden curriculum in their clinical environment and their motivations to conform or comply with external pressures; (2) Noticing-educating students to be aware of their motivations and actions in situations where they experience pressures to conform to practices that they may view as unprofessional; (3) Processing-

guiding students to analyze their experiences in collaborative reflective exercises and finally; (4) Choosing-supporting students in selecting behaviors that validate and reinforce their aspirations to develop their best professional identity.

Holt, R. L., Tofil, N. M., Hurst, C., Youngblood, A. Q., Peterson, D. T., Zinkan, J. L., . . . Robin, N. H. (2013). Utilizing High-Fidelity Crucial Conversation Simulation in Genetic Counseling Training. *American Journal of Medical Genetics Part A, 161A*(6), 1273-1277. doi: 10.1002/ajmg.a.35952

> Genetics professionals are often required to deliver difficult news to patients and families. This is a challenging task, but one that many genetics trainees have limited opportunity tomaster during training. This is true for several reasons, including relative scarcity of these events and an understandable hesitation of supervisors allowing a trainee to provide such high stakes information. Medical simulation is effective in other health care disciplines giving trainees opportunities of "hands on" education in similar high stakes situations. We hypothesized that crucial conversations simulation would be effective for genetics trainees to gain experience in communication and counseling skills in a realistic clinical scenario. To test this hypothesis, we designed a prenatal counseling scenario requiring disclosure of an abnormal amniocentesis result and discussion of pregnancy management options; we challenged participants to address common counseling questions. Three medical genetics resident physicians and five genetic counseling students participated. Genetics and simulation experts observed the session via live video feed from a different room. A behavioral checklist was completed in real time assessing trainee's performance and documenting medical information discussed. Debriefing immediately followed the session and included simulation and genetics experts and the actor parents. Participants completed open-ended post evaluations. There was a trend towards participants being more likely to discuss issues the child could have while an infant/toddler rather than issues that could emergeas the child with Down Syndrome transitions to adulthood and end of life (P = .069). All participants found the simulation helpful, notably that it was more realistic than role-playing with colleagues.

Hontvedt, M., & Arnseth, H. C. (2013). On the bridge to learn: Analysing the social organization of nautical instruction in a ship simulator. *International Journal of Computer-Supported Collaborative Learning, 8*(1), 89-112. doi: 10.1007/s11412-013-9166-3

> Research on simulator training has rarely focused on the way simulated contexts are constructed collaboratively. This study sheds light on how structuring role-play and fostering social interactions may prove fruitful for designing simulator training. The article reports on a qualitative study of nautical students training in a ship simulator. The study examines how a group of students, together with a professional maritime pilot, enacted professional roles and collaboratively constructed a simulated context for learning to navigate. Their activities on the bridge were framed within the maritime profession's hierarchical system of captain and officers, and we examine in detail how these institutionally defined positions become important resources for meaning-making during role-play. The article portrays how two competing activity contexts were constructed, and how the role-play provided opportunities for enacting professional roles and work tasks. However, it also shows that it is challenging to pick up on what is

significant to learn and to confront this in debriefing. The article concludes that the students' collaboration and meaning-making is an entity of training that may be more efficiently addressed.

Hooley, T., Watts, A. G., Sultana, R. G., & Neary, S. (2013). The 'Blueprint' framework for career management skills: a critical exploration. *British Journal of Guidance & Counselling, 41*(2), 117-131. doi: 10.1080/03069885.2012.713908
> This article examines the Blueprint framework for career management skills as it has been revealed across sequential implementations in the USA, Canada and Australia. It is argued that despite its lack of an empirical basis, the framework forms a useful and innovative means through which career theory, practice and policy can be connected. The framework comprises both core elements (learning areas, learning model and levels) and contextual elements (resources, community of practice, service delivery approach and policy connection). Each of these elements is explored.

Houseal, A. K., Abd-El-Khalick, F., & Destefano, L. (2014). Impact of a Student-Teacher-Scientist Partnership on Students' and Teachers' Content Knowledge, Attitudes Toward Science, and Pedagogical Practices. *Journal of Research in Science Teaching, 51*(1), 84-115. doi: 10.1002/tea.21126 *
> Engaging K-12 students in science-based inquiry is at the center of current science education reform efforts. Inquiry can best be taught through experiential, authentic science experiences, such as those provided by Student-Teacher-Scientist Partnerships (STSPs). However, very little is known about the impact of STSPs on teachers' and students' content knowledge growth or changes in their attitudes about science and scientists. This study addressed these two areas by examining an STSP called Students, Teachers, and Rangers and Research Scientists (STaRRS). STaRRS was incorporated into the existing long-standing education program Expedition: Yellowstone! For teachers, a pre-test, intervention, post-test research design was used to assess changes and gains in content knowledge, attitudes, and pedagogical practices. A quasi-experimental, pre-test-post-test, comparison group design was used to gauge gains in students' content knowledge and attitudes. Data analyses showed significant positive shifts in teachers' attitudes regarding science and scientists, and shifts in their pedagogical choices. Students showed significant content knowledge gains and increased positive attitudes regarding their perceptions of scientists. The findings indicate that STSPs might serve as a promising context for providing teachers and students with the sort of experiences that enhance their understandings of and about scientific inquiry, and improve their attitudes toward science and scientists.

Huber, S. G. (2013). Multiple Learning Approaches in the Professional Development of School Leaders - Theoretical Perspectives and Empirical Findings on Self-assessment and Feedback. *Educational Management Administration & Leadership, 41*(4), 527-540. doi: 10.1177/1741143213485469
> This article investigates the use of multiple learning approaches and different modes and types of learning in the (continuous) professional development (PD) of school leaders, particularly the use of self-assessment and feedback. First, formats and multiple approaches to professional learning are described. Second, a possible approach to self-

assessment and feedback is explored including the Competence Profile School Management (CPSM)', which is one component of the modularized four-phase-PD program of three German states. Third, the quality and the impact of self-assessment and feedback is examined using quantitative as well as qualitative measures. The participants experience it as an enriching learning opportunity which promotes reflection and the motivation to gather more information about one's own behavior in day-to-day practice, supports other learning opportunities and promotes the participants' professional competencies in areas they identify as beneficial to improving their practice. Moreover, participants change the way they approach career planning after participating in this PD program. They seem to have developed a more differentiated subjective theory of leadership and identified different leadership career possibilities or career steps to principalship than they had before participating in the program. Overall, there are more participants willing to apply for different types of leadership position at schools and in the school system.

Hussin, V. (2013). Student and teacher reflections on indirectness as a pragmatic feature of pharmacist-patient simulations. *English for Specific Purposes, 32*(2), 110-121. doi: 10.1016/j.esp.2013.01.001

This article reports on a research process where focussed reflection on pharmacist patient simulations led to meta-pragmatic awareness and directions for pedagogical practice. The research participants were third-year EAL pharmacy students, who were practising being pharmacists, and pharmacy staff members, who played the part of patients. Analysis of the students' videoed performances showed that some areas of pragmatic weakness had a negative impact on professional communication, including indirectness in advice-giving sequences. Reflection on such indirectness, the focus of this article, occurred in two stages: when the participants were interviewed after viewing their simulations and when participant focus groups were held to discuss research findings a year later. Both the stimulated recall interview and the focus group data showed the value of reflection for the students who observed and commented on the effect their language choices had on the patients, developed a meta-pragmatic language for describing and explaining these choices, and identified areas and possible strategies for language improvement. The research process also assisted pharmacy staff members to clarify their concerns regarding students' pragmatic choices and to suggest teaching activities responsive to the research data. The article illustrates how teachers and students can co-operate to develop ESP and discipline-based pedagogical practice. (C) 2013 Elsevier Ltd. All rights reserved.

Hwang, G. J., Sung, H. Y., Hung, C. M., & Huang, I. (2013). A Learning Style Perspective to Investigate the Necessity of Developing Adaptive Learning Systems. *Educational Technology & Society, 16*(2), 188-197.

Learning styles are considered to be one of the factors that need to be taken into account in developing adaptive learning systems. However, few studies have been conducted to investigate if students have the ability to choose the best-fit e-learning systems or content presentation styles for themselves in terms of learning style perspective. In this paper, we aim to investigate these issues by using two versions of an educational game developed based on the sequential/global dimension of the learning style proposed by Felder and Silverman. The experimental results showed that the choices made by the students were not related to their cognitive process or learning style; instead, most students made their

choices by intuition based on personal preferences. Moreover, the students who learned with learning style-fit versions showed significantly better learning achievement than those who learned with non-fit versions. Consequently, it is concluded that students preferring one game over another does not necessarily mean that they will learn better with that version, revealing the importance and necessity of developing adaptive learning systems based on learning styles.

Hwang G. J., Chiu, L. & Chen, C. (2014). A contextual game-based learning approach to improving students' inquiry-based learning performance in Social Studies courses. Computers & Education 01/2014*

ABSTRACT Inquiry-based learning, an effective instructional strategy, can be in the form of a problem or task for triggering student engagement. However, how to situate students in meaningful inquiry activities remains to be settled, especially for social studies courses. In this study, a contextual educational computer game is developed to improve students' learning performance based on an inquiry-based learning strategy. An experiment has been conducted on an elementary school social studies course to evaluate the effects of the proposed approach on the inquiry-based learning performances of students with different learning styles. The experimental results indicate that the proposed approach effectively enhanced the students' learning effects in terms of their learning achievement, learning motivation, satisfaction degree and flow state. Furthermore, it is also found that the proposed approach benefited the "active" learning style students more than the "reflective" style students in terms of learning achievement. This suggests the need to provide additional supports to students with particular learning styles in the future

I

Illeris, K. (2014). Transformative Learning re-defined: as changes in elements of the identity. *International Journal of Lifelong Education*, *33*(5), 573-586.

Transformative learning has usually been defined as transformations of meaning perspectives, frames of reference, and habits of mind—as proposed initially by Jack Mezirow. However, several authors have found this definition too narrow and too cognitively oriented, and Mezirow has later emphasized that emotional and social conditions are also important. Thus, there is a need for a broader, more up-to-date, and still significant definition. This article suggests that the target area of transformative learning should be defined by the term "identity," which explains what this term implies, argues why it is the best possible choice, and gives examples of how the concepts of transformative learning and identity can mutually enrich each other and lead to new understandings in both of these areas.

Ineson, E. M., Jung, T., Hains, C., & Kim, M. (2013). The influence of prior subject knowledge, prior ability and work experience on self-efficacy. *Journal of Hospitality Leisure Sport & Tourism Education, 12*(1), 59-69. doi: 10.1016/j.jhlste.2012.11.002

The factors that might enhance the learning achieved by students from a business simulation are examined to determine the extent to which prior ability, and knowledge gained through prior studies and/or work experience impact on self-efficacy. Immediately prior to their participation in a Hotel Operations Tactics and Strategy (HOTS) business simulation course, 326 international students' prior subject knowledge, prior ability and self-efficacy were measured via an on-line survey. The findings indicate that self-efficacy is influenced positively by prior knowledge and prior ability. Further, it is revealed that work experience does not have any significant moderating effect between either prior knowledge or prior ability and self-efficacy.

Ip, R. K. F. (2013). Learning in Students' Favorite Virtual Environment. In T. H. Chang (Ed.), *Information, Communication and Education Application, Vol 11* (Vol. 11, pp. 70-75).

Unlike traditional educational advocators who believe that knowledge can be directly transferred from teachers and acquired by learners, we believe that knowledge is progressively acquired through students' real experiences. Learning through experiences becomes most effective when the learners are carrying out their learning processes in the environment they feel most comfortable. Our Net Generation students like to spend time in the Internet for their social activities, and many of them spend significant amount of their time forsuch interactions in their favorite environment. This study aims at developing a framework to explore the possibility of conducting learning activities in the environments where our students value the most. We pick the social networking sites which our students frequently visit as our study target. The combination of qualitative and quantitative research methodologies is adopted to understand how social networking sites contribute to effective learning. We suggest that implementing learning activities in social networking sites will increase the likelihood of effective progressive learning. Our proposed framework will thereforebe able to help educators evaluate the suitability of a social networking site for learning purposes in terms of its formality and the learners' habitual uses of it.

Islam, M. M., Barnes, A., & Toma, L. (2013). An investigation into climate change scepticism among farmers. *Journal of Environmental Psychology, 34*, 137-150. doi: 10.1016/j.jenvp.2013.02.002

Although climate change is a major challenge facing the world today, a considerable proportion of the general public in the UK and other Western countries have been found to be sceptical of the issue. Given that livestock farming is a major contributor to climate change, this study explored the extent to which climate change scepticism prevailed among Scottish dairy farmers, the factors that affected their scepticism, and the lessons that could be derived for dealing with this challenge. According to Rahmstorf's (2004) typology of trend, risk and attribution scepticism, appropriate statements were developed and measured on Likert-type scales. The factors that affected these three categories of scepticism were identified by using a Structural Equation Modelling approach. The prevalence of trend and attribution scepticism was quite low among the farmers, but the prevalence of risk scepticism was considerably high. The extent of these scepticisms was significantly affected by farmers' age, economic status, education, experience with disease and pest infestations, use of media, contacts with agricultural extension consultants, environmental values, and economic values. The effects of these factors on

scepticism and the directions of these effects were however different for the three categories of scepticism proposed by Rahmstorf. The theoretical and policy implications of these findings are discussed. (C) 2013 Elsevier Ltd. All rights reserved.

Ismail, A., Abbiden, N. Z., Hasan, R. & Ro'is, I. (2014). The Profound of Students' Supervision Practice in Higher Education to Enhance Student Development. Studies in Higher Education 07/2014; 4(4). DOI: 10.5539/hes.v4n4p1 *

ABSTRACT Supervision has become a highlight in higher education in recent years. While striving for the quality of education, the stress in research supervision has become dominant. Excellent research can contribute to the prominent of institutions' image. This paper accumulates the models from expert scholars in students' development regarding supervision issue. The models have their own functions and strengths. This can be proved by revising at the thorough implementation. Most supervision approaches and models have mutual aptitude: (1) The relationship establishment that was built on good communication, expectation and confidentiality; (2)The formulation of student-based, agreed upon aims and outputs; and (3)A systematic training and learning process in relation to the goals. This paper will discuss appropriate models that can be studied in student development.

J

James, A. & Brookfield, S. D. (2014) *Engaging Imagination: Helping students become creative and reflective thinkers* NY: John Wiley & Sons

Jarzabkowski, P., Giulietti, M., Oliveira, B., & Amoo, N. (2013). "We Don't Need No Education"-Or Do We? Management Education and Alumni Adoption of Strategy Tools. *Journal of Management Inquiry, 22*(1), 4-24. doi: 10.1177/1056492612460588

Despite concerns about the relevance of management education, there is relatively little evidence about whether graduates use the management tools and concepts they are taught. We address this gap with evidence from a survey of business school alumni adoption of tools typically taught in strategic management courses. Our findings show that four educational characteristics-level of formal education, frequency of management training, specificity of strategic management education, and time elapsed since formal education-drive adoption of strategy tools. Specifically, features such as postgraduate over undergraduate qualifications and frequent exposure to management training predispose greater user of strategy tools. However, other factors, such as time elapsed since formal education, are not as great a predictor of variation in use. We conclude with a predictive model of the relative weight and importance of educational and demographic characteristics on strategy tool adoption and discuss our findings in light of the relevance debate.

Jayatilleke, N., & Mackie, A. (2013). Reflection as part of continuous professional development for public health professionals: a literature review. *Journal of Public Health, 35*(2), 308-312. doi: 10.1093/pubmed/fds083 *

For many years, reflection has been considered good practice in medical education. In public health (PH), while no formal training or teaching of reflection takes place, it is expected as part of continuous professional development. This paper aims to identify reflective models useful for PH and to review published literature on the role of reflection in PH. The paper also aims to investigate the reported contribution, if any, of reflection by PH workers as part of their professional practice. A review of the literature was carried out in order to identify reflective experience, either directly related to PH or in health education. Free text searches were conducted for English language papers on electronic bibliographic databases in September 2011. Thirteen papers met the inclusion criteria and were reviewed. There is limited but growing evidence to suggest reflection improves practice in disciplines allied to PH. No specific models are currently recommended or widely used in PH. Health education literature has reflective models which could be applied to PH practice.

Johannesson, E., Silen, C., Kvist, J., & Hult, H. (2013). Students' experiences of learning manual clinical skills through simulation. *Advances in Health Sciences Education, 18*(1), 99-114. doi: 10.1007/s10459-012-9358-z

Learning manual skills is a fundamental part of health care education, and motor, sensory and cognitive learning processes are essential aspects of professional development. Simulator training has been shown to enhance factors that facilitate motor and cognitive learning. The present study aimed to investigate the students' experiences and thoughts about their learning through simulation skills training. The study was designed for an educational setting at a clinical skills centre. Ten third-year undergraduate nursing students performed urethral catheterisation, using the virtual reality simulator UrecathVision((TM)), which has haptic properties. The students practised in pairs. Each session was videotaped and the video was used to stimulate recall in subsequent interviews. The interviews were analysed using qualitative content analysis. The analysis from interviews resulted in three themes: what the students learn, how the students learn, and the simulator's contribution to the students' learning. Students learned manual skills, how to perform the procedure, and professional behaviour. They learned by preparing, watching, practising and reflecting. The simulator contributed by providing opportunities for students to prepare for the skills training, to see anatomical structures, to feel resistance, and to become aware of their own performance ability. The findings show that the students related the task to previous experiences, used sensory information, tested themselves and practised techniques in a hands-on fashion, and reflected in and on action. The simulator was seen as a facilitator to learning the manual skills. The study design, with students working in pairs combined with video recording, was found to enhance opportunities for reflection.

Jones, R., Woods, S. A. & Guillaume, Y. R. F. (2015The effectiveness of workplace coaching: A meta-analysis of learning and performance outcomes from coaching. *Journal of Occupational and Organizational Psychology* DOI: 10.1111/joop.12119 *

This study presents a meta-analysis synthesizing the existing research on the effectiveness of workplace coaching. We exclusively explore workplace coaching provided by internal or external coaches and therefore exclude cases of manager–subordinate and peer coaching. We propose a framework of potential outcomes from

coaching in organizations, which we examine meta-analytically (k = 17). Our analyses indicated that coaching had positive effects on organizational outcomes overall (δ = 0.36), and on specific forms of outcome criteria (skill-based δ = 0.28; affective δ = 0.51; individual-level results δ = 1.24). We also examined moderation by a number of coaching practice factors (use of multisource feedback; type of coach; coaching format; longevity of coaching). Our analyses of practice moderators indicated a significant moderation of effect size for type of coach (with effects being stronger for internal coaches compared to external coaches) and use of multisource feedback (with the use of multisource feedback resulting in smaller positive effects). We found no moderation of effect size by coaching format (comparing face-to-face, with blended face-to-face and e-coaching) or duration of coaching (number of sessions or longevity of intervention). The effect sizes give support to the potential utility of coaching in organizations. Implications for coaching research and practice are discussed. Practitioner points Our meta-analysis supports the positive effects of workplace coaching as an approach to employee learning and development in organizations, with a variety of criteria. Our findings indicate that coaching was more effective when conducted by internal coaches and when multisource feedback was excluded. Workplace coaching was effective whether conducted face-to-face or using blended techniques (i.e., blending face-to-face with e-coaching).

Jurjus, R. A., Krum, J., & Goldman, E. F. (2013). Design for learning: Adapting the microscopic anatomy laboratory to adult learners. *Anatomical Sciences Education, 6*(3), 177-181. doi: 10.1002/ase.1324

Medical school curricula are undergoing transformational change in response to calls for integrating content across courses and years to enable better retention and application and for individualizing learning to meet the diverse backgrounds and thus differing needs of students. To address the related teaching challenges, faculty can employ solid principles of adult learning and instructional design and use teaching strategies that stimulate different learning styles. We developed laboratory sessions that follow a learner-centered instructional design model we refer to as PLHET, reflecting the steps of preparing, linking, hooking, engaging, and transferring learning, and also applied teaching strategies that reflect Kolb's four styles of learning (accommodative, divergent, assimilative, and convergent). We utilized a group learning format to promote active learning, teamwork, and self-direction. Preliminary data based on student surveys of laboratory activity show positive responses. In the future, we will test the hypothesis that this design will improve medical students' performance. Anat Sci Educ (c) 2013 American Association of Anatomists.

K

Kablan, Z. & Kaya, S. (2014) Preservice Teachers' Constructivist Teaching Scores Based on Their Learning Styles *Australian Journal of Teacher Education* 01/2014; 39(12):65-77.*

ABSTRACT This study examined the relationship between pre-service teachers' constructivist teaching and their learning styles based on Kolb's Experiential Learning Theory. The Learning Styles Inventory-3 was administered at the beginning of the

semester to determine preferred learning style. The Constructivist Teaching Evaluation Form was filled out by pre-service teachers following the microteaching session. Bivariate correlation and ANOVA anayses were conducted to evaluate the learning style-teaching relationship. Results showed that students' teaching evaluation scores were positively correlated with their active experimentation (AE) and negatively correlated with their reflective observation (RO) scores. ANOVA results showed that accommodating students had significantly higher self-evaluation scores than diverging and assimilating students. Moreover, converging students rated themselves higher than diverging students on constructivist teaching. These results
imply that pre-service teachers who prefer constructivist learning strategies deliver better constructivist lessons based on their self reports.

Katz-Buonincontro, J., Ghosh, R. (2014). Using workplace experiences for learning about affect and creative problem solving: Piloting a four-stage model for management education. *The International Journal of Management Education*
volume 12, issue 2, year 2014, pp. 127 – 141*

This article reports on the theoretical and empirical development of a four-stage model intended for developing management cognition in the area of creative problem solving that was piloted with a doctoral student who holds a managerial position in a college. Using a single subject case study design that employs experience sampling methodology, the models flips the order of the teach-then-assess approach: Stage 1 examined the student's approach to solving problems at work through collecting two weeks of survey responses on her smartphone at work. Stage 2 scaffolded the student's approach to creative problem solving with a focused discussion of research on the role affect plays in problem solving. Stage 3 gave the student time to reflect upon this research by journaling for five days, followed by a discussion with faculty members. Finally, Stage 4 repeated examining the student's approach to problem solving through a survey on her smartphone and presented the student with an analysis of the two rounds of ESM data, and how it differed depending on solving a "new" versus "prevalent" problem (i.e., Stage 1 & Stage 4) and her journal entries. This time she derived new ways to solve organizational problems. Student data from these four stages is compared to extant literature and analyzing creative problem solving practices with real-time data collection methods is discussed.

Kelly, S. (2014). Horses for courses: Exploring the limits of leadership development through equine-assisted learning. *Journal of Management Education*. 38(2): 216-233 *

This article draws on insights taken from Lacanian psychoanalysis to rethink and resituate notions of the self and subjectivity within the theory and practice of experiential leadership development. Adopting an autoethnographic approach, it describes the author's own experience as a participant in a program of equine-assisted learning or "horse whispering" and considers the consequences of human–animal interactions as a tool for self-development and improvement. Through an analysis of this human–animal interaction, the article presents and applies three Lacanian concepts of *subjectivity, desire*, and *fantasy* and considers their form and function in determining the often fractured relationship between self and other that characterizes leader–follower relations.

T. Kafadar, B. Tay. Learning strategies and learning styles used by students in social studies. International Journal of Academic Research Part B; 2014; 6(2), 259-267. DOI: 10.7813/2075-4124.2014/6-2/B.39 *

> It can be important to be known students' learning features to increase efficiency of learning process in social studies lesson that aims educating efficient citizens. Therefore, in this study the learning strategies used by students, their learning styles and whether or not their learning strategies are changing according to their learning styles are researched. The data in this study, which is a cross sectional survey, were collected through the learning strategies developed by Tay (2002) on the basis of the classification of learning strategies performed by Gagne and Dricscoll (1988) and Kolb learning style inventory III which was adopted into Turkish by Evin Gencel (2006). As a result of the research it was identified that while students mostly use affective strategies they use coding and monitoring strategies at very least, they have mainly decomposition style and this style is followed by arrangement, assimilation and alteration styles. Furthermore, it have been recognized that students' learning strategies are changing according to learning styles they have. It is concluded that in all learning strategies the students who have decomposition learning style use strategy more in significant level than those who have assimilation style.

Kempster, S., & Parry, K. (2014). Exploring observational learning in leadership development for managers. *Journal of Management Development*, *33*(3), 164-181.

> Purpose–Observational learning within the leadership development of managers is under-theorized thus far. The purpose of this paper is to develop a theoretical argument that builds
> out from a relational leadership perspective to center on processes affecting observational
> ...

Kim, H. (2013). *The perceptions of students with different learning preferences regarding their learning experiences in a university classroom that incorporates instructional strategies for diverse learners*. Master's thesis in educational psychology University of Hawaii at Manoa.*

This study investigated the extent to which the use of the Center for Research on Education, Diversity, and Excellence (CREDE) model facilitated learning preference congruent teaching, which I defined as instruction that seeks to maximize the utility of incorporating practices that take advantage of students' learning preferences into the educational process. The research questions were: How effectively do CREDE activity center tasks accommodate students with different learning preferences? How is the learning preference congruence of center tasks related to students' perceptions of center tasks? The learning styles of 16 undergraduates, in an introductory teaching course that used the CREDE model, were evaluated using the Learning Style Inventory. All data obtained from classroom observations, semi-structured individual interviews, and focus group interviews were analyzed using open and axial coding. The results showed the CREDE course facilitated learning preference congruent teaching to some extent, but not completely. Additionally, the center tasks that accommodated the participants' learning preferences were perceived more positively by the participants.

Klar E. A. (2013). *An investigation of variance in learning styles among a multigenerational workforce: Implications for management education curriculum.* Ph. D. Thesis Capella University*

Today's society, shaped by demographic changes and a global economy, has created different employment trends and work lives that result in adults' engaging in postretirement second careers. This phenomenon is a common occurrence in rapidly aging societies like Korea. This qualitative study examined the postretirement career transition process of Korean middle-aged adults. In-depth interviews were held with nine individuals ranging from 48 to 65 years identified as postretirement workers following voluntary retirement from private and public sectors. Data analysis revealed four phases in the career transition process: experiencing disequilibrium in a previous career, reflecting on self and context, making new professional connections and changes, and committing to new careers. The career transition was also a process involving different modes of learning, leading to the conclusion that the career transition process is essentially a learning process in which individuals acquire new perspectives and meaning in a new role.

The body of literature on generational theory reflects differences among generational groups in the constructs of values, attitudes and personality. While scholars have theorized learning styles vary based on membership in a generational group, very little empirical research has been conducted on the phenomenon of generational learning. This quantitative, comparative study investigated the distribution of learning styles among generational groups to identify if differences exist among Millennial, Generation X and Baby Boomer workers. Kolb's Learning Style Inventory version 3.1 was utilized to gather learning style data from over 200 U.S. full-time workers employed in the retail industry (N=228). The study's findings reflected no differences in learning styles among generational groups. Additionally, no differences were found within generational groups due to gender, education level or ethnicity. Despite no differences being found, the results of this study inform the practice of management education faculty, administrators, and workplace learning practitioners. Practitioners are cautioned on stereo-typing or labeling learning styles of generational groups. A further understanding of individual differences in learning style within today's diverse student population will enable educational practitioners to design, develop, and implement successful, balanced instructional strategies that are appealing to an array of learning styles.

Kim, S. J. (2014). The Career Transition Process: A Qualitative Exploration of Korean Middle-Aged Workers in Postretirement Employment. *Adult Education Quarterly, 64*(1), 3-19. doi: 10.1177/0741713613513491

Today's society, shaped by demographic changes and a global economy, has created different employment trends and work lives that result in adults' engaging in postretirement second careers. This phenomenon is a common occurrence in rapidly aging societies like Korea. This qualitative study examined the postretirement career transition process of Korean middle-aged adults. In-depth interviews were held with nine individuals ranging from 48 to 65 years identified as postretirement workers following voluntary retirement from private and public sectors. Data analysis revealed four phases in the career transition process: experiencing disequilibrium in a previous career,

reflecting on self and context, making new professional connections and changes, and committing to new careers. The career transition was also a process involving different modes of learning, leading to the conclusion that the career transition process is essentially a learning process in which individuals acquire new perspectives and meaning in a new role.

Klapper, R. G. (2014). A role for George Kelly's repertory grids in entrepreneurship education? Evidence from the French and Polish context. *The International Journal of Management Education* 12: 407-421*

This paper represents one of the few examples of cross-national research of innovative teaching approaches in entrepreneurship in Higher Education institutions (HEIs), in this case in France and Poland. The study focuses on the effectiveness of George Kelly's repertory grids, the methodological tool of Personal Construct Theory (PCT), as an innovative pedagogical tool in entrepreneurship education. The student experience and the perceived advantages and disadvantages and relevance of the tool were systematically explored in a post-course survey conducted among a similar number of postgraduate students in both countries, 60 in Poland and 55 in France. A theoretical model that connects social learning theory to Gestalt perception underpins content analysis of the qualitative data. Repertory grids are shown to have value as both a network analysis tool and for encouraging reflection. Repertory grids empower the student to be proactive in thinking about their network and as encouraging collaboration among learners. Hitherto repertory grids have been deployed as a research tool, but little is known of their value in teaching situations. This paper begins the process of establishing repertory grids as of educational as well as research value.

Kolb, A. Y., Kolb, D. A., Passarelli, A. & Sharma, G. (2014). On becoming an experiential educator: The Educator Role Profile. *Simulation and Gaming.* Pages 1-31 DOI: 10.1177/10468114534383*

Kolb, A. Y. & Kolb, D. A. (2013). *The Kolb Learning Style Inventory 4.0: A Comprehensive Guide to the Theory, Psychometrics, Research on Validity and Educational Applications.* Boston, MA: Hay Resources Direct www.haygroup.com/leadershipandtalentondemand

Kolb, A. Y. & Kolb, D. A. (2013). *The Kolb Learning Style Inventory 3.1& 3.2: Technical Specifications.* Boston, MA: Hay Resources Direct www.haygroup.com/leadershipandtalentondemand

Kolb, D. A. & Peterson, K. (2013). Tailor your coaching to people's learning styles. *HBR Guide to Coaching your Employees.* Cambridge, MA: Harvard Business Publishing*

As you coach your employees to develop their skills or improve their performance, you can set them up for success by understanding how they learn best and adjusting your methods accordingly. They may prefer learning through intense experience, sustained reflection, analytical thinking, goal-directed action, or some combination of those approaches—the basic steps in what we call the Experiential Learning Cycle. By tapping into their preferred styles, you will engage them more deeply and find an approach to learning they feel motivated to follow. As a result, they'll make greater—and faster—progress toward their goals.

Kolb, D. A. & Rainey M. A. (2014). Leading in a Learning Way: A 2lst Century Perspective on Leadership Using Experiential Learning Theory"; *The NTL Handbook of Organization Development and Change: Principles, Practices, and Perspectives.* Arlington, VA: NTL Institute

Kolb, D. A., & Yeganeh, B. (2015). Deliberate Experiential Learning: Mastering the Art of Learning from Experience. . In K. Elsbach, C. D. Kayes & A. Kayes (Eds.), *Contemporary Organizational Behavior in Action* (1st Edition ed.). Upper Saddle River, NJ: Pearson Education.*

Konak, A., Clark, T. K., & Nasereddin, M. (2014). Using Kolb's Experiential Learning Cycle to improve student learning in virtual computer laboratories. *Computers & Education*, *72*, 11-22.
    In information security education, learning experiences that involve hands-on experimentation are extremely important. However, information security topics are challenging to teach in traditional computer laboratories mainly due to restrictive information technology policies. In the literature, virtual computer laboratories have been proposed to address the challenges of providing students with hands-on learning experiences in information security. While the literature mainly focuses on technical aspects of virtual computer laboratories and related hands-on activities, pedagogical aspects of hands-on activities are overlooked. Our experiences with a virtual computer laboratory have shown that hands-on activities which are designed based on a prescriptive, step-by-step approach do not always achieve the expected learning outcomes. In this paper, we propose Kolb's Experiential Learning Cycle as a framework to design hands-on activities in virtual computer laboratories, and we argue that hands-on activities designed based on this framework enhance student learning outcomes. We illustrate how the stages of Kolb's model can be incorporated into hands-on activities and present results from two empirical studies to test the effectiveness of the proposed framework. The empirical findings in the first study suggest that hands-on activities designed based on the proposed framework are more likely to increase student interest and competency compared to step-by-step hands-on activities. In the second study, the collected data is analyzed using structural equation modeling to determine the relationships among the factors affecting student learning outcomes as a result of hands-on activities. The results of the second study show that student-to-student interaction is an important factor determining student learning experiences.

Koponen, J., Pyorala, E. & Isotalus, P. (2014). Communication skills for medical students: Results from three experiential methods. *Simulation & Gaming.* 45(2): 235-254 *

Background. In medical students' communication training, the **doctor-patient encounter** can be simulated through experiential learning methods, such as simulated patients (SPs) and role-play. However, more **theater** and **drama** education–based methods have **not been widely used** in the context of medical education.

Aim. In this mixed-method study, we **compare** SPs, role-play, and Theatre in Education (TIE) method in teaching **interpersonal communication competence** (ICC) to medical students. We describe how a course in communication was based on the communication in the disciplines (CID) theoretical framework and principles of experiential learning and reflection.

Method. Second-year medical students (*n* = 132) were randomly assigned to three groups where SPs, role-play, and TIE method were used. Data were collected by a questionnaire, focus group interviews, and a translated version of the Communication Skills Attitude Scale. Data were analyzed using statistical methods, qualitative content analysis, and cross-case analysis.

Results. The results show that (a) the medical students perceived **all three methods favorably**, (b) the students' self-reported **learning outcomes** were very **similar** in the three groups, and (c) the students' **attitudes** to learning communication skills became **more positive** as the training progressed.

Conclusion. We present a **model** that can be used in designing and implementing specialty-specific communication training in **other disciplines** than medicine as well.

Kotsis, S. V., & Chung, K. C. (2013). Application of the "See One, Do One, Teach One" Concept in Surgical Training. *Plastic and Reconstructive Surgery, 131*(5), 1194-1201. doi: 10.1097/PRS.0b013e318287a0b3

Background: The traditional method of teaching in surgery is known as "see one, do one, teach one." However, many have argued that this method is no longer applicable, mainly because of concerns for patient safety. The purpose of this article is to show that the basis of the traditional teaching method is still valid in surgical training if it is combined with various adult learning principles. Methods: The authors reviewed literature regarding the history of the formation of the surgical residency program, adult learning principles, mentoring, and medical simulation. The authors provide examples for how these learning techniques can be incorporated into a surgical resident training program. Results: The surgical residency program created by Dr. William Halsted remained virtually unchanged until recently with reductions in resident work hours and changes to a competency-based training system. Such changes have reduced the teaching time between attending physicians and residents. Learning principles such as experience, observation, thinking, and action and deliberate practice can be used to train residents. Mentoring is also an important aspect in teaching surgical technique. The authors review the different types of simulators-standardized patients, virtual reality applications, and high-fidelity mannequin simulators-and the advantages and disadvantages of using them. Conclusions: The traditional teaching method of "see one, do one, teach one" in surgical residency programs is simple but still applicable. It needs to evolve with current changes in the medical system to adequately train surgical residents and also provide patients with safe, evidence-based care.

Kozhevnikov, M., Evans, C., & Kosslyn, S. M. (2014). Cognitive Style as Environmentally Sensitive Individual Differences in Cognition A Modern Synthesis and Applications in Education, Business, and Management. *Psychological Science in the Public Interest*, *15*(1), 3-33.

> The key aims of this article are to relate the construct of cognitive style to current theories in cognitive psychology and neuroscience and to outline a framework that integrates the findings on individual differences in cognition across different disciplines. First, we characterize cognitive style as patterns of adaptation to the external world that develop on the basis of innate predispositions, the interactions among which are shaped by changing environmental demands. Second, we show that research on cognitive style in psychology and cross-cultural neuroscience, on learning styles in education, and on decision-making styles in business and management all address the same phenomena. Third, we review cognitive-psychology and neuroscience research that supports the validity of the concept of cognitive style. Fourth, we show that various styles from disparate disciplines can be organized into a single taxonomy. This taxonomy allows us to integrate all the well-documented cognitive, learning, and decision-making styles; all of these style types correspond to adaptive systems that draw on different levels of information processing. Finally, we discuss how the proposed approach might promote greater coherence in research and application in education, in business and management, and in other disciplines.

Kumar, L. R., Shenoy, J. &Voralu, K. (2013) .Experiential Learning: An Interpretative Phenomenological Analysis British Journal of Education, Society & Behavioural Science 01/2013; 2(4):402-408. *

Kolb's classifies learners as divergers, convergers, assimilators and accommodators. Do these learners adopt different learning strategies? Phenomenology is concerned with the study of experience from the perspective of the individual and is based on a paradigm of personal knowledge and subjectivity. The use of interpretative phenomenology in learning environment in the context of learning styles could possibly play a positive role in the process of providing information to students on best learning strategies that lead to success.

Objectives: 1) To classify 1st year medical students as divergers, convergers, assimilators and accommodators; 2) To identify the phenomena through which the divergers, convergers, assimilators and accommodators learn using a phenomenological approach; 3) To investigate the academic success of the different groups of learners during formative assessment.

Method: Mixed method approach. Quantitative method was employed for segregating the learners according to Kolb's learning cycle and assessing a relation to their academic performance. A qualitative phenomenological approach was adopted using semi-structured interviews to collect the information on the performance of accommodators. An Interpretative Phenomenological approach (IPA) was used to analyze thedata of 88 first year medical students. The successful strategies were also revealed to the accommodators to improve their learning outcomes.

Results: A total of 88 first year MBBS students were enrolled in this study. Thirty-three students were grouped into accommodator style, 24 in diverger, 18 in converger and 13 in assimilator. Student grouped into accommodator learning style had significantly lower examination marks compared to the other groups. There were no other significant differences between the groups.

The successful strategies employed by the high achievers like regular pattern of learning, revising the learning material, making notes were shared with the low achievers/accommodators.

Conclusion: The positive strategies employed by the different learners were revealed by the phenomenological approach. The response of students indicates that it is the effective planning, repeated revisions, writing notes and careful, detailed efforts in learning that has led to their academic success.

Kurilovas, E., & Zilinskiene, I. (2013). NEW MCEQLS AHP METHOD FOR EVALUATING QUALITY OF LEARNING SCENARIOS. *Technological and Economic Development of Economy, 19*(1), 78-92. doi: 10.3846/20294913.2012.762952

The aim of the paper is to present a new MCEQLS AHP method for the expert evaluation of quality of learning scenarios. A special attention is paid to suitability of scenarios to particular learner groups (styles). Solution of learning scenarios quality evaluation and optimisation problem could help educational institutions to select suitable scenarios for particular learning styles. The research results will be implemented in iTEC - a four-year, largest pan-European e-learning R&D project focused on the design of the future classroom funded by 7th Framework Programme. A novel method of consecutive triple application of AHP is explored in more detail. Suitability of several iTEC scenarios to particular learner groups is also analysed in the paper. A number of multiple criteria decision analysis principles are applied to create a comprehensive quality model (criteria tree) for evaluating quality of scenarios. Several optimisation methods are explored and applied to optimise learning scenarios in conformity with particular learning style. Several practical examples of iTEC learning scenarios alternatives have been evaluated against the proposed MCEQLS AHP method. The research results have shown that the

proposed MCEQLS AHP method is quite objective, exact and simple to use for selecting qualitative scenarios alternatives for particular learner groups.

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Lagro, J., van de Pol, M.H.J., Laan, A., Huijbregts-Verheyden, F.J., Fluit, L.C.R., Olde Rikkert, M.G.M. (2014). A randomized control trial on teahing geriatric medical decision making and cost consciousness with the serious game GeriatriX. *Journal of the American Medical directors Association.* 15 (12): 957.el-957.e6

Lawrence, W. K. (2014) The experience of contrasting learning styles, learning preferences and personality in the community college English classroom. Unpublished Ed. D. thesis Northeastern University, Boston MA *

> This study focuses on the classroom experiences of students who identify themselves as learning best as reflective-observers (Assimilators) in contrast to those who learn best as active-experimenters (Accommodators), with additional consideration for their self-identified personality type (introvert vs. extrovert) as well as one of the VARK learning preferences of each student. In the movement for teaching more in line with a constructivist learning paradigm, more dialogue and active engagement has changed the community college English classroom. However, given our emerging understanding of learning styles and personality types, it is questionable whether all students are served by these methods. This study seeks to catalogue the perceived learning experience of students on the two ends of the learning style spectrum (Assimilators and Accommodators) in a community college English classroom that uses diverse pedagogical methods. The research questions explored are: (1) How do Assimilators, defined as introverted reflective learners, and Accommodators, defined as extroverted socially active learners, experience classrooms that use social discourse versus teacher-directed pedagogical methods? and (2) How do they perceive those different situations as a benefit to their learning in a community college English class? A qualitative analysis of interviews with both populations on their experience across multiple sections of a community college English class as well as a review of students' responses to end of unit lessons in keeping with more teacher-directed or social constructivist pedagogies will be used to discern common and differing perceptions of the teaching strategies employed in the English class.

Lawter, L., Rua, T., & Guo, C. (2014). The interaction between learning styles, ethics education, and ethical climate. *Journal of Management Development*, *33*(6), 580-593.
> Purpose–The purpose of this paper is to investigate how learning styles and learning spaces interact to stimulate deep learning. Specifically the paper investigated the interaction of learning styles with ethics education and the ethical climate to influence the likelihood

Lee, M., & Fortune, A. E. (2013). Do We Need More "Doing" Activities or "Thinking" Activities in the Field Practicum? *Journal of Social Work Education, 49*(4), 646-660. doi: 10.1080/10437797.2013.812851

How do MSW students learn new professional skills in the field practicum? Does students' reflection affect the use of other learning activities during the field practicum? Students in field practica participate in activities that involve observation, doing (participatory), and conceptual linkage. In this study of MSW students, conceptual linkage activities represent students' overall reflective capacity to integrate classroom theory and field practice. The results indicate that conceptual linkage activities are more strongly related to learning outcomes than observation or participatory activities. There is also a significant interaction effect between participatory activities and conceptual linkage activities when students' satisfaction is considered. Discussion includes suggestions for increasing students' reflection to integrate classroom and field.

Lee, M. G., & Fortune, A. E. (2013). Patterns of Field Learning Activities and Their Relation to Learning Outcome. *Journal of Social Work Education, 49*(3), 420-438. doi: 10.1080/10437797.2013.796786

Field practicum is an active learning process. This study explores the different learning stages or processes students experience during their field practicum. First-year master's of social work students in field practica were asked how much they had engaged in educational learning activities such as observation, working independently, process recordings, and conceptual linkage activities for their practice. Forty-eight students completed a questionnaire three times over the first-year field practicum. The results showed that observation and process recording decreased over the time points. However, most of the participatory activities and conceptual linkage activities increased. Conceptual linkage activities were more strongly related to learning outcomes than observational or participatory activities. The discussion includes suggestions for enhancing student learning over the course of the field practicum.

Lee, G. H. & Lee, S. J. (2013) A study on the relationship between learning styles of students and academic achievement in mathematics - Focusing on freshmen enrolled in a college of science and engineering of the medium-sized university. *Communications of Mathematical Education* 01/2013; 27(4). DOI: 10.7468/jksmee.2013.27.4.473

This study examines the learning styles of freshmen enrolled in a college of science and engineering, and analyses the relationship between learning styles and academic achievement in mathematics to provide basic data for the teaching-learning methods, which are more suitable to learning styles of students.

For the purpose of this research, a reliability analysis of Kolb's LSI is applied to 282 freshmen enrolled in a college of science and engineering of the medium-sized university.

The outcomes of this survey are followings. Firstly, students hold higher positions in the order of converger, assimilator, accommodator, diverger among 4 learning styles. Secondly, while there is a positive correlation between abstract conceptualization[AC] and academic achievement, there is a negative correlation between concrete experience[CE] and academic achievement. Thirdly, as for academic achievement in mathematics, converger is superior to assimilator and accommodator. Finally, the correlation between learning styles and academic achievement is different by demographic characteristics.

Based on these results, this study suggests the necessity for various teaching- learning strategies, which are adjusted to both academic characteristics of mathematics and learning styles. Also, the need for teaching methods, which help students to develop effectively four learning cycles, is proposed.

Lefebvre, M. R., & Redien-Collot, R. (2013). "How to Do Things with Words": The Discursive Dimension of Experiential Learning in Entrepreneurial Mentoring Dyads. *Journal of Small Business Management, 51*(3), 370-393. doi: 10.1111/jsbm.12022

> The purpose of this article is to assess the mentoring impact in an experiential learning entrepreneurship program. We did three-year participant observation in the major business school incubator of the Paris area with the aim to identify the interpersonal communicational strategies that mentors, which are confirmed entrepreneurs, use in order to influence nascent entrepreneurs' attitudes and behaviors in dyadic interaction. These communicational strategies are categorized as persuasion, engagement, criticism, and provocation. An additional two-year field research allowed us to assess the impact of these communicational strategies at the individual (commitment, compliance, resistance) and the enterprise levels (business launching and fund-raising).

Leicher, V., Mulder, R. H., & Bauer, J. (2013). Learning from Errors at Work: A Replication Study in Elder Care Nursing. *Vocations and Learning, 6*(2), 207-220. doi: 10.1007/s12186-012-9090-0

> Learning from errors is an important way of learning at work. In this article, we analyse conditions under which elder care nurses use errors as a starting point for the engagement in social learning activities (ESLA) in the form of joint reflection with colleagues on potential causes of errors and ways to prevent them in future. The goal of our study was to investigate whether exploratory findings from an earlier study on hospital nurses' ESLA (Bauer and Mulder Learning in Health and Social Care 6:121-133, 2011) replicate and generalise to the domain of elder care nursing. For this purpose, we surveyed a sample of N = 180 elder care nurses using vignette-based questionnaires. With these data, we tested a mediation model of nurses' ESLA suggested by the earlier study. We firstly found a statistically significant indirect effect of error strain on ESLA that is completely mediated by the estimation of an error as relevant for learning (beta = .16). Secondly, the perception of a safe social team climate at work has a statistically significant indirect effect on ESLA that is completely mediated by nurses' tendency to cover up errors (beta = .31). These results entirely cross-validate the exploratory findings of Bauer and Mulder (Learning in Health and Social Care 6:121-133, 2011) on hospital nurses' ESLA and show that they generalise to the domain of elder care nursing.

Leung, K., Ang, S. & Tan, M. L. (2014). Intercultural competence. *Annual Review of Organizational Psychology and Organizational Behavior* 1:489-519*

We review recent theoretical and empirical developments in the intercultural competencies literature, highlighting contemporary models and empirical research in organizational contexts. We survey the current conceptualizations of intercultural competencies and propose that intercultural competencies can be classified based on traits, attitudes and worldviews, capabilities, or a combination of these dimensions. We identify key psychological, behavioral, and performance outcomes associated with these models. We review empirical studies of intercultural competencies at the group level and discuss emerging models of dyad-level, firm-level, and multilevel intercultural competencies. We evaluate the current measurement of intercultural competencies and suggest alternative approaches. Finally, we examine research on selection, training, and development of intercultural competencies. We end each section by identifying future research foci, and we offer an integration of the literature at the end of the review.

Li, M., Mobley, W. H., & Kelly, A. (2013). When Do Global Leaders Learn Best to Develop Cultural Intelligence? An Investigation of the Moderating Role of Experiential Learning Style. *Academy of Management Learning & Education, 12*(1), 32-50. doi: 10.5465/amle.2011.0014 *

> Cultural intelligence is believed to be an important quality for global leaders. To understand how this quality can be developed from international experience, our study employs experiential learning theory to analyze the learning process. We hypothesize that the extent to which the length of overseas work experience contributes to the development of cultural intelligence varies depending on the executives' learning styles. Analyses of data collected from 294 international executives and graduate business students in China and Ireland indicated that the positive relationship between the length of overseas experience and cultural intelligence is strengthened when global executives have a divergent learning style, not when they have an assimilative, convergent, or accommodative learning style.

Liburd, J. J., & Christensen, I. M. F. (2013). Using web 2.0 in higher tourism education. *Journal of Hospitality Leisure Sport & Tourism Education, 12*(1), 99-108. doi: 10.1016/j.jhlste.2012.09.002

> This practice paper provides knowledge and inspiration on the integration of web 2.0 technologies in tourism higher education. The integration of web 2.0 in higher education rests on socio-cultural learning theories and important elements in a web 2.0 educational design are interaction, joint creation of content, critical thinking and collaboration between students and teachers both face-to-face and online via social media such as discussion forums, blogs and wikis. The paper explains how social media can help provide a frame for student preparation, support project working methods and activate and challenge students in engaging and motivating teaching and learning activities that result in in-dept learning. Such activities should be carefully planned. Particular attention is paid to providing students with instructions on how to interact with content and with each other in online learning environments. For learning to happen in a virtual learning

environment, the learning process of students should be carefully scaffolded. The paper provides examples of web 2.0 learning activities from the INNOTOUR platform, which is a joint platform for students, teachers, businesses and researchers of tourism. The article exposes how the integration of web 2.0 in teaching involves much more than the integration of new educational tools. We argue that it is a radically different way of understanding and co-creating knowledge and learning, which has a range of implications. Among these are curriculum revisions to create alignment between learning objectives, web 2.0 learning and teaching processes, and student assessment.

Light, R. L., Harvey, S., & Mouchet, A. (2014). Improving 'at-action'decision-making in team sports through a holistic coaching approach. *Sport, Education and Society*, *19*(3), 258-275.

This article draws on Game Sense pedagogy and complex learning theory (CLT) to make suggestions for improving decision-making ability in team sports by adopting a holistic approach to coaching with a focus on decision-making 'at-action'. It emphasizes the complexity of decision-making and the need to focus on the game as a whole entity, where players, individually and collectively, attempt to manage disorder in the face of an opposition. It rejects the complicated, mechanistic approach to learning and cognitivist views that dominate the literature on decision-making in team sports that see it as being a linear process of conscious thinking limited to the individual mind. It offers an alternative, holistic view grounded in a practical example of how this might be achieved in coaching rugby union football and theorized within a CLT framework

Liu, J., & He, Q. (2014). The Match of Teaching and Learning Styles in SLA. *Creative Education*, *5*(10), 728. *

The match of teaching and learning styles plays an important part in the research of second language acquisition in tertiary education. This paper analyzes the connotation and the research perspectives of the match of teaching and learning styles in tertiary learners' second language acquisition, introduces a new measuring indicator: a compatible teaching style, and proposes its achieving methods: 1) initiating a student-centered teaching style, 2) developing a proper learning style, and 3) adjusting the match of teaching and learning styles.

Liu, Z., & Yuan, S. Q. (2013). A Semi-Physical Simulation Experiment System for Automatic Control Education. In P. Li (Ed.), *Proceedings of the 2013 Conference on Education Technology and Management Science* (pp. 767-770).

Automatic control theory is an important professional course of the automation and correlation specialties. This course is not pure theoretical, but practical for its close relationship with practical industrial automation systems design and implementation. Experiment plays an irreplaceable role in the process of the whole course learning. Most of traditional experiments for automatic control theory are pure simulated process. Furthermore, the experiment items are mainly demonstrated or confirmatory. This sort of experiment can be considered as another kind of class exercise. Students cannot get knowledge and technical ability in this way. A hardware-in-the-loop simulation experiment system based on MATLAB/RTW (Real-Time Workspace) is introduced in this paper. The software is open sources based on MATLAB. The hardware includes a PCI multi-purpose data acquisition card and an experimental box including analog circuit. According to the experiences of more than 5 years application, this semi-physical system is effective to attract student's interests. And through laboratory experiments

education, understanding of the theory concept and practical ability are improved. An experiment teaching method based on experiential learning theory is also introduced.

Lockie, N. M., Van Lanen, R. J., & Mc Gannon, T. (2013). EDUCATIONAL IMPLICATIONS OF NURSING STUDENTS' LEARNING STYLES, SUCCESS IN CHEMISTRY, AND SUPPLEMENTAL INSTRUCTION PARTICIPATION ON NATIONAL COUNCIL LICENSURE EXAMINATION-REGISTERED NURSES PERFORMANCE. *Journal of Professional Nursing, 29*(1), 49-58. doi: 10.1016/j.profnurs.2012.04.003

The purpose of this study was to examine the relationship between a number of demographic and academic variables of baccalaureate nursing graduates (n = 197) and their performance on the National Council Licensure Examination-Registered Nurses (NCLEX-RN). Variables examined in this study include gender, race, transfer status, Chemistry 108 grade, and student learning style and participation in supplemental instruction sessions. Variables found to be predictors of performance on the NCLEX-RN were Chemistry 108 grade, student learning style, and race. The results of this study can be used by nursing faculty to enhance nursing students' success on the NCLEX-RN. The use of these predictors will allow early identification of those students who are likely to have difficulty in passing the NCLEX-RN, thus providing adequate time and opportunities for appropriate interventions.

Loewen, P. S., & Jelescu-Bodos, A. (2013). Learning Styles and Teaching Perspectives of Canadian Pharmacy Practice Residents and Faculty Preceptors. *American Journal of Pharmaceutical Education, 77*(8).

Objective. To characterize and compare learning styles of pharmacy practice residents and their faculty preceptors, and identify teaching perspectives of faculty preceptors. Methods. Twenty-nine pharmacy residents and 306 pharmacy faculty members in British Columbia were invited to complete the Pharmacists' Inventory of Learning Styles (PILS). Faculty preceptors also were asked to complete the Teaching Perspectives Inventory (TPI). Results. One hundred percent of residents and 61% of faculty members completed the PILS, and 31% of faculty members completed the TPI. The most common dominant learning style among residents and faculty preceptors was assimilator, and 93% were assimilators, convergers, or both. The distribution of dominant learning styles between residents and faculty members was not different (p=0.77). The most common dominant teaching perspective among faculty members was apprenticeship. Conclusion. Residents and preceptors mostly exhibited learning styles associated with abstract over concrete thinking or watching over doing. Residency programs should steer residents more toward active learning and doing, and maximize interactions with patients and other caregivers.

Lopez, B. G., Cervero, G. A., Rodriguez, J. M. S., Felix, E. G., & Esteban, P. R. G. (2013). Learning styles and approaches to learning in excellent and average first-year university students. *European Journal of Psychology of Education, 28*(4), 1361-1379. doi: 10.1007/s10212-012-0170-1

We assessed the learning approaches and learning styles of a sample of 148 excellent students selected from 11 degrees from nine centers of the Polytechnic University of Valencia (Spain), and we compared the results with those of a sample of 133 average students from the same centers. We found that excellent students took deeper approach

than average students and that they preferred reflective and theoretical learning styles. Average students adopted a more surface approach, and they preferred active and pragmatic learning styles. Greater academic achievement was related to the deep approach and to the reflective and theoretical learning styles. Poorer academic achievement was related to the surface approach and an active style. University professors may reinforce the deep approach by placing high aims for students which go well beyond reproducing knowledge but use other complementary methods other than expository teaching: problem solving, case studies, designing projects, raising questions, discussion and negotiation in the classroom, etc. To accomplish this, teachers must encourage students to be committed, and these methods help do that. It also helps to introduce more demanding evaluation procedures which do not merely involve repeating what has been learnt, but include training guidance that offers students feedback.

Luse, A., McElroy, J. C., Townsend, A. M., & DeMarie, S. (2013). Personality and cognitive style as predictors of preference for working in virtual teams. *Computers in Human Behavior, 29*(4), 1825-1832. doi: 10.1016/j.chb.2013.02.007

This study tests the effects of personality and cognitive style on preference of individuals for working in virtual teams. The results support the use of both personality and cognitive style as predictor variables with each uniquely contributing to two facets of virtual team preference, namely preference for virtual teams over working alone and preference for virtual teams over traditional groups. Results are discussed regarding the impact of cognitive style and personality for corporate implementation of virtual teams. (C) 2013 Elsevier Ltd. All rights reserved.

M

Mamede, S., Loyens, S., Ezequiel, O., Tibirica, S., Penaforte, J., & Schmidt, H. (2013). Effects of reviewing routine practices on learning outcomes in continuing education. *Medical Education, 47*(7), 701-710. doi: 10.1111/medu.12153

Context Conventional continuing medical education (CME) has been shown to have modest effects on doctor performance. New educational approaches based on the review of routine practices have brought better results. Little is known about factors that affect the outcomes of these approaches, especially in middle-income countries. This study aimed to investigate factors that influence the learning and quality of clinical performance in CME based on reflection upon experiences. Methods A questionnaire and a clinical performance test were administered to 165 general practitioners engaged in a CME programme in Brazil. The questionnaire assessed behaviours related to four input variables (individual reflection on practices, peer review of experiences, self-regulated learning and learning skills) and two mediating variables (identification of learning needs and engagement in learning activities, the latter consisting of self-study of scientific literature, consultations about patient problems, and attendance at courses). Structural equation modelling was used to test a hypothesised model of relationships between these variables and the outcome variable of clinical performance, measured by the clinical performance test. Results After minor adjustments, the hypothesised model fit the

empirical data well. Individual reflection fostered identification of learning needs, but also directly positively influenced the quality of clinical performance. Peer review did not affect identification of learning needs, but directly positively affected clinical performance. Learning skills and self-regulation did not help in identifying learning needs, but self-regulation enhanced study of the scientific literature, the learning activity that most positively influenced clinical performance. Consultation with colleagues, the activity most frequently triggered by the identification of learning needs, did not affect performance, and attendance of courses had only limited effect. Conclusions This study shed light on the factors that influence learning and performance improvement in continuing education based on the review of routine practices in middle-income settings. The findings support the importance of reflection on practices as an instrument for enhancing clinical performance.

Manolis, C., Burns, D. J., Assudani, R., & Chinta, R. (2013). Assessing experiential learning styles: A methodological reconstruction and validation of the Kolb Learning Style Inventory. *Learning and Individual Differences, 23*, 44-52. doi: 10.1016/j.lindif.2012.10.009 *

> To understand experiential learning, many have reiterated the need to be able to identify students' learning styles. Kolb's Learning Style Model is the most widely accepted learning style model and has received a substantial amount of empirical support. Kolb's Learning Style Inventory (LSI), although one of the most widely utilized instruments to measure individual learning styles, possesses serious weaknesses. This study transforms the LSI from a type (categorical measure) to a degree (continuous measure) style of learning style measure that is not only more parsimonious but is also easier to use than the existing LSI. Two separate studies using samples of engineering and computer science graduate students (Study 1) and undergraduate and graduate students pursuing quantitative degrees (Study 2) culminating in a corroborative multi-sample validation were employed, producing a methodologically sound option to the existing LSI. Implications for future research and guidance for learning and teaching methods are discussed.

Manav, B., & Eceoglu, A. (2014). AN ANALYSIS AND EVALUATION ON ADOPTING KOLB'S LEARNING THEORY TO INTERIOR DESIGN STUDIOWORK. *International Journal of Academic Research*, *6*(5).

> Understanding students' approach at learning new information and the way they visualize solutions during interior design studio is essential. Hence, interior design studio provides an interactive medium where patterns of knowledge are derived from abstract terms and are visualized at the end. This paper discusses the methodology at the 2nd year design studio course. The experimental learning theory of Kolb is tried to be interpreted in relation to the design problem. Students' approach to the design problem is analysed in regard to the terminology as abstract conceptualization, active experimentation, concrete experience and reflective observation. An overall evaluation is interpreted as a result of student's performance. Three different student projects are introduced in the paper with three different approaches; "converging, assimilating and accomodating". 52 students' performance scores are analysed. 61.23% of the students succeded by means developing a concept and submitting the design project in regard to the model discussed in the paper.

Matuso, M. (2014). Instructional skills for on-the-job training and experiential learning: an empirical study of Japanese firms. *International Journal of Training and Development* 18(4): 225-240*

ABSTRACT: Despite the effectiveness of on-the-job training (OJT), few systematic empirical studies have been conducted on how OJT trainers instruct trainees in firms. The primary goal of this study was to investigate the characteristics of the trainer's instructional skills for OJT using survey data collected from 715 employees covering 22 firms. Results indicate that excellent OJT trainers use four types of instructional skills: (1) stretching trainee objectives, (2) monitoring their progress, (3) providing positive feedback, and (4) promoting reflection on results. The findings suggest that excellent OJT trainers facilitate trainees' experiential learning by promoting deliberate practice and reflective practice. Theoretical and managerial implications are also discussed.

Matsuo, M., & Nakahara, J. (2013). The effects of the PDCA cycle and OJT on workplace learning. *International Journal of Human Resource Management, 24*(1), 195-207. doi: 10.1080/09585192.2012.674961

> In the present article, we examined the effects of the plan-do-check-act (PDCA) cycle and on-the-job-training (OJT) on workplace learning. We defined workplace learning based on the concept of an organizational learning cycle. Using survey data from a Japanese fire and marine insurance company, we found that PDCA, OJT (empowerment), and reflective communication had positive effects on workplace learning. These results suggest that quality management, empowerment and reflective practice may help to significantly improve workplace learning. We also discuss theoretical and managerial implications of this study.

Mauelshagen, C., Denyer, D., Carter, M., & Pollard, S. (2013). Respect for experience and organisational ability to operate in complex and safety critical environments. *Journal of Risk Research, 16*(9), 1187-1207. doi: 10.1080/13669877.2012.761273

> The role of experience has been shown to be critical for risk management. Yet, few studies have conceptualised and explained the organisational processes that determine how experience informs risk management. We present a case study examining how experience informs the risk-based decisions of employees in a safety critical industry. Data were gathered through 28 semi-structured interviews in a power utility. Experience contributed significantly to risk-based decisions, particularly those involving complex or dynamic risks, across all functional and hierarchical divisions. Further, collective experience between organisational divisions and a widespread respect for experience promoted the sharing of experiential knowledge. This deepened the extent to which experience was incorporated into risk-based decisions and facilitated coordination between operational and strategic risk management. Respect for experience and collective experience are important contributors to organisational ability for adaptive and coordinated behaviour in complex and high risk environments.

McLeod, P. L. (2013). Experiential Learning in an Undergraduate Course in Group Communication and Decision Making. *Small Group Research, 44*(4), 360-380. doi: 10.1177/1046496413488217

> The innovative structure of an undergraduate course on communication and decision making in small groups, based on the framework of Kolb's experiential learning theory, is described. The course involves doing in-class exercises that replicate published research about a given topic. Exercises involve completion of a group task, the manipulation of

variables, and collection and analysis of data. Following each exercise, the students read the original research and other relevant materials. In the subsequent class, the students are debriefed through an examination of the class data and a discussion of the reading materials and potential practical applications. This sequence of experiment replication and discussion is repeated with a different exercise each week. The in-class activities are supplemented with written analysis assignments. Variations on the basic course module and other course components are described, and factors guiding design choices are discussed. Evidence of student learning relevant to course objectives is presented.

McVittie, E., & Smalley, P. (2013). The use of visualisations to develop the aesthetic aspects of spiritual literacy. *International Journal of Childrens Spirituality, 18*(2), 200-213. doi: 10.1080/1364436x.2013.796308

> This paper reports on a pilot project to explore the relationship between the imagined physical experience and the inner-personal aspects of a guided visualisation journey in relation to spiritual literacy for children aged 7-11. The project examined the use of auditory and aesthetic stimuli during a visualisation as a pre-linguistic trigger so the experience could be recalled, developed or enhanced through the stimuli alone. It used guided visualisations and reflective activities with eight pupils in two upper primary settings to examine whether this recollection of the imagined physical journey aided development of a personal, spiritual experience after the event, and whether the psychological expression of the imagined physical experience aided this in some way. It was recognised that the child's connection with the context could affect the depth, quality or even intensity of interpretation. Therefore, the project draws upon theories including psychosynthesis theory, which takes into account the uniqueness of the individual's life journey and therefore allows the children to make meaningful links within their schema.

Mesny, A. (2013). Taking Stock of the Century-long Utilization of the Case Method in Management Education. *Canadian Journal of Administrative Sciences-Revue Canadienne Des Sciences De L Administration, 30*(1), 56-66. doi: 10.1002/cjas.1239 $

> Over the last century, the case method has been a key teaching tool in management education. This article takes stock of the main characteristics of the case method, clarifies its learning goals, and exposes the relationships between these goals and supporting learning theories, in particular active-learning theory and experiential learning. It then examines the multiple variations of the case method that have developed over the years and discusses arguments against the case method. Finally, four proposals are made in view of strengthening the case method's value: extend case variety, moderate the case method's ambition to foster experiential learning, conduct empirical research about the case method's learning impacts, and emphasize the close relationship between case research and case teaching.

Milanese, S., Gordon, S., & Pellatt, A. (2013). Profiling physiotherapy student preferred learning styles within a clinical education context. *Physiotherapy, 99*(2), 146-152. doi: 10.1016/j.physio.2012.05.004 $

> Objectives This study investigated the preferred learning styles, related to clinical education of a cohort of final year physiotherapy students. Design A cross sectional observation study using a questionnaire survey. Setting Undergraduate physiotherapy

program at James Cook University, Townsville, Queensland. Participants 48 final year physiotherapy students representing 89% of the total cohort (48/54). Interventions Survey questionnaire using Kolb's Learning Style Inventory (Version 3.1). Results The preferred learning styles were spread uniformly across the three learning styles of Converging, Assimilating and Accommodating, with the least preferred method of learning style the Diverging style. This suggests that in the clinical environment this student cohort are least likely to prefer to develop their learning from actually experiencing the scenario i.e. in front of a real life patient (concrete experience), and were more likely prefer this learning to come from a theoretical perspective, allowing them to consider the problem/scenario before experiencing it. When transforming this experience into knowledge, they prefer to use it on a 'real life' patient (active experimentation). Conclusion Whilst understanding learning styles have been promoted as a means of improving the learning process, there remains a lack of high level evidence. The findings of this study reinforce those of other studies into the learning styles of physiotherapy students suggesting that physiotherapy students share common learning style profiles.

Moazeni, S., Pourmohammadi, H., & Ieee. (2013). *Smart Teaching Quantitative Topics through the VARK Learning Styles Model*. $
    Effective teaching concerns students' learning styles and its diversity. An adopted teaching strategy must be then aligned with students' learning traits. In this paper, to provide an effective in-classroom learning environment for most students, we propose to develop appropriate instructional presentation methods to match diversity of learning styles. We demonstrate how to align in-class instructions, such as quizzes and other in-class learning activities, with students' learning styles. Our discussion, which primarily focuses on quantitative topics, relies on research in education and applied psychology, and our teaching experience. Here, we utilize the Fleming's VARK learning style model. We then address some shortcomings of identifying students' learning styles through a generic questionnaire, and propose a scheme to dynamically infer them. This automatic student modeling approach can be easily adopted in distance education.

Moffett, J. (2014). Twelve tips for "flipping" the classroom. *Medical teacher*, (0), 1-6.
    The flipped classroom is a pedagogical model in which the typical lecture and homework elements of a course are reversed. The following tips outline the steps involved in making a successful transition to a flipped classroom approach. The tips are based on the available literature alongside the author's experience of using the approach in a medical education setting. Flipping a classroom has a number of potential benefits, for example increased educator–student interaction, but must be planned and implemented carefully to support effective learning

Montequin, V. R., Fernandez, J. M. M., Balsera, J. V., & Nieto, A. G. (2013). Using MBTI for the success assessment of engineering teams in project-based learning. *International Journal of Technology and Design Education, 23*(4), 1127-1146. doi: 10.1007/s10798-012-9229-1
    Project-Based Learning (PBL) is a teaching and learning methodology that emphasizes student centered instruction by assigning projects. The students have to conduct significant projects and cope with realistic working conditions and scenarios. PBL is generally done by groups of students working together towards a common goal. Several

factors play a significant role on the final success of each group. It is not only the technical aspects that have an influence on their final achievements, but also the human aspects and group dynamics. These dynamics can be studied through personality assessments, the Myers-Brigss Type Indicator (MBTI) being one of the most used and well-known methods. The MBTI is a psychometric questionnaire designed to measure psychological preferences in how people perceive the world and make decisions. Although MBTI strictly speaking just only identifies a personality type of an individual, it taps into key aspects of personality and behavior in areas such as communication, problem solving, decision making, and interpersonal relations. Several studies have also related MBTI profiles with leadership styles. The MBTI also helps in understanding group dynamics, analyzing shortcomings in an individual's style and how the style affects the group as a whole. MBTI has been widely used in Team Building, Conflict Resolutions, Communication Skills and Understanding. The purpose of this work is to study how different combinations of student profiles could explain different group dynamics and at the same time, to predict the final success in a group. Knowing more about the personality of the team members, their leadership styles and how different personalities get along or conflict with each other can be useful information for building successful PBL groups. To this purpose, the final results of eight different student groups are analyzed, studying the influence of the MBTI profiles of their members with the group success. The final results obtained in this study suggest that the leadership style associated with the profile of the student playing the role of group coordinator and the members' profile combinations have an influence on the group's success.

Moore, E. T (2013). Applying the Kolb experiential learning model to distance education. *Online Education* www.facultyfocus.com

> I began my teaching career as a resident (classroom) instructor teaching Army officers about leadership. My teaching techniques are based on Kolb's Experiential Learning Model (ELM) that involves the following steps: (1) Concrete Experience, (2) Publish and Process, (3) Generalize New Information, (4) Apply, and (5) Develop.[i] ELM, which has worked very well for me in the classroom, directly emphasizes that adults learn when they:
> - Discover for themselves
> - Take responsibility for their learning
> - Have a venue to receive experience and feedback
> - Understand why the lesson is beneficial to their personal and/or professional lives[ii]

When I retired from the military and transitioned to distance learning instruction, I wondered if it was possible to apply Kolb's ELM to an online curriculum and still facilitate a valuable adult learning environment for 32 geographically dispersed students. Here are some techniques that I currently use to apply Kolb's ELM in online teaching. In my distance learning class, we meet routinely online every two weeks. During each synchronous session, the students will usually brief a practical exercise that they have developed together since the previous session.

Mor, S., Morris, M., & Joh, J. (2013). Identifying and Training Adaptive Cross-Cultural Management Skills: The Crucial Role of Cultural Metacognition. *Academy of Management Learning & Education, 12*(3), 139-161. doi: 10.5465/amle.2012.0202

> For managers, intercultural effectiveness requires forging close working relationships with people from different cultural backgrounds (Black, Mendenhall, & Oddou, 1991). Recent research with executives has found that higher cultural metacognition is associated with affective closeness and creative collaboration in intercultural relationships (Chua, Morris, & Mor, & 2012). However, little is known about the social cognitive mechanisms that facilitate the performance of individuals who score high on cultural metacognition. We propose that one important question for cross-cultural research and training is identifying which metacognitive strategies enable successful intercultural collaborations. We suggest that one such strategy is "cultural perspective taking"-considering how another's cultural background shapes their behavior in a given context. We hypothesized that cultural perspective taking facilitates intercultural coordination and cooperation, and that a manipulation that boosts cultural perspective taking would be especially beneficial for individuals who score low in dispositional cultural metacognition. We found support for the above hypotheses in five studies using both quasi-field and experimental approaches. We discuss the implications of these findings for literatures on expatriate managers, cross-cultural training, cultural intelligence, and intercultural negotiations.

Motola, I., Devine, L. A., Chung, H. S., Sullivan, J. E., & Issenberg, S. B. (2013). Simulation in healthcare education: A best evidence practical guide. AMEE Guide No. 82. *Medical Teacher, 35*(10), E1511-E1530. doi: 10.3109/0142159x.2013.818632

> Over the past two decades, there has been an exponential and enthusiastic adoption of simulation in healthcare education internationally. Medicine has learned much from professions that have established programs in simulation for training, such as aviation, the military and space exploration. Increased demands on training hours, limited patient encounters, and a focus on patient safety have led to a new paradigm of education in healthcare that increasingly involves technology and innovative ways to provide a standardized curriculum. A robust body of literature is growing, seeking to answer the question of how best to use simulation in healthcare education. Building on the groundwork of the Best Evidence in Medical Education (BEME) Guide on the features of simulators that lead to effective learning, this current Guide provides practical guidance to aid educators in effectively using simulation for training. It is a selective review to describe best practices and illustrative case studies. This Guide is the second part of a two-part AMEE Guide on simulation in healthcare education. The first Guide focuses on building a simulation program, and discusses more operational topics such as types of simulators, simulation center structure and set-up, fidelity management, and scenario engineering, as well as faculty preparation. This Guide will focus on the educational principles that lead to effective learning, and include topics such as feedback and debriefing, deliberate practice, and curriculum integration - all central to simulation efficacy. The important subjects of mastery learning, range of difficulty, capturing clinical variation, and individualized learning are also examined. Finally, we discuss approaches to team training and suggest future directions. Each section follows a framework of background and definition, its importance to effective use of simulation,

practical points with examples, and challenges generally encountered. Simulation-based healthcare education has great potential for use throughout the healthcare education continuum, from undergraduate to continuing education. It can also be used to train a variety of healthcare providers in different disciplines from novices to experts. This Guide aims to equip healthcare educators with the tools to use this learning modality to its full capability.

Mueller, B. A., & Shepherd, D. A. (2014). Making the Most of Failure Experiences: Exploring the Relationship Between Business Failure and the Identification of Business Opportunities. *Entrepreneurship Theory and Practice*.

> Although previous research has extolled the importance of business failure as a precursor to transformational learning, few studies have explored the conditions under which such learning occurs or the content of the resulting knowledge. We explore several cognitive moderators of the relationship between failure experiences and a specific type of opportunity identification knowledge—the use of structural alignment processes. Results indicate that learning from failure is facilitated for entrepreneurs who possess a cognitive toolset that consists of opportunity prototypes and an intuitive cognitive style. Moreover, we found that prior professional knowledge negatively moderates this relationship.

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Continuing Professional Development for Health Workers. Is Learning Theory Relevant?. Available from: https://www.researchgate.net/publication/277388433_Continuing_Professional_Development_for_Health_Workers_Is_Learning_Theory_Relevant [accessed Jun 4, 2015].

Myers, C. G., Staats, B. R., & Gino, F. (2014). 'My Bad!'How Internal Attribution and Ambiguity of Responsibility Affect Learning from Failure. *How Internal Attribution and Ambiguity of Responsibility Affect Learning from Failure (April 18, 2014). Harvard Business School NOM Unit Working Paper*, (14-104). *

Learning in organizations is a key determinant of individual and organizational success, and one valuable source of this learning is prior failure. Previous research finds that although individuals *can* learn from failed experiences, they do not always do so. To explain why this is true, we explore how individuals process failed experiences as a potential source of learning. Drawing on attribution theory, we conceptualize the differential impact that internal (self-focused) and external (factors outside of one's control) attributions after failure may have on individuals' learning and identify a key factor that shapes whether individuals attribute failure internally or externally, namely perceived *ambiguity of responsibility*. We hypothesize that when perceived ambiguity of responsibility is low rather than high, individuals will be more likely to attribute their failure internally and in turn devote more effort to learning and improving. We test our hypotheses using data collected in field and laboratory settings. This multi-method approach supports our theoretical model and permits us to gain further insight into how learning from failure occurs for individuals in work organizations.

N

Nakano, D., Muniz, J., & Batista, E. D. (2013). Engaging environments: tacit knowledge sharing on the shop floor. *Journal of Knowledge Management, 17*(2), 290-306. doi: 10.1108/13673271311315222

> Purpose - The purpose of this paper is to identify factors that facilitate tacit knowledge sharing in unstructured work environments, such as those found in automated production lines. Design/methodology/approach - The study is based on a qualitative approach, and it draws data from a four-month field study at a blown-molded glass factory Data collection techniques included interviews, informal conversations and on-site observations, and data were interpreted using content analysis. Findings - The results indicated that sharing of tacit knowledge is facilitated by an engaging environment. An engaging environment is supported by shared language and knowledge, which are developed through intense communication and a strong sense of collegiality and a social climate that is dominated by openness and trust. Other factors that contribute to the creation of an engaging environment include managerial efforts to provide appropriate work conditions and to communicate company goals, and HRM practices such as the provision of formal training, on-the-job training and incentives. Practical implications - This paper clarifies the scope of managerial actions that impact knowledge creation and sharing among blue-collar workers. Originality/value - Despite the acknowledgement of

the importance of blue-collar workers' knowledge, both the knowledge management and operations management literatures have devoted limited attention to it. Studies related to knowledge management in unstructured working environments are also not abundant.

Naserieh, F., & Sarab, M. R. A. (2013). Perceptual learning style preferences among Iranian graduate students. *System, 41*(1), 122-133. doi: 10.1016/j.system.2013.01.018

Research suggests that a host of cognitive, affective, and perceptual variables are at work when individuals go about the task of second or foreign language learning. Among these variables are learning styles that are habitual ways of perceiving, processing, and storing information. This study was conducted as a response to Isemonger and Sheppard's (2003) call for more context-specific research into the relationship between learning styles and background variables due to the inconsistencies existing in the field. The study aimed at exploring the pattern of graduate learners' perceptual learning style preferences and its possible relationship with their gender, age, discipline, and self-rated proficiency level. The participants were 138 graduate students at Shahid Beheshti University, Tehran, Iran. They were randomly selected based on a two-stage sampling procedure and responded to the Perceptual Learning Style Preference Questionnaire. The questionnaire was translated, piloted, and slightly modified before the study proper. The results revealed that the participants favored kinesthetic and tactile modalities and disfavored group learning style. As for the background variables, some significant differences were detected. The findings and their implications are also discussed.

Nation, D., Reed, L. L., & Swank, A. (2014). Innovations and future directions for experiential learning for a large online business degree program. *Developments in Business Simulation and Experiential Learning*, *41*. *

The purpose of this paper is to begin to answer the question of how and why experiential learning methodologies might be modified in order to be introduced effectively into an online human resources management degree program. Traditionally, experiential learning is a philosophy of learning by doing and includes internships, apprenticeships; field work, clinical application, cooperative education, fellowships, practicums, service learning, student teaching, study abroad, and volunteer experiences. However, it is exceptionally difficult to deliver instructionally sound real-life experiential learning experiences. Further research is needed to identify the experiential learning methodologies which would be most practical for a large online university business degree program.

Nehyba, J., Lazarova, B., Kolb, D. A., Korthagen, F. A. J., Boud, D. Jarvis, P., Moon, J. A., Kolar, J., Dobrovolna, S., Svec, J. & Valenta, J. (2014). *Reflexe v procesu uceni: Destkrat stejne a prece jinsk.* Brno, Czech Republic Masarykova University. *

Reflection, experience and learning: three frequently mentioned notions which have appeared in education-focused literature for a couple of decades now. Reflection is almost unanimously regarded as a necessary and efficient way to learn in specific situations, in various groups and in relation to the fulfilment of certain goals. It is usually applied where knowledge is not about to undergo quantitative change (I know something more) but qualitative change too (I know something in a different way), provided that quantity and quality of knowledge can be so differentiated at all. For some promoters of experiential learning, experience and its reflection even represent an inevitable element of every learning situation and a condition for successful work and a happy life.

This publication was initiated by the staff of the Academic Centre of Personal Development which acts in cooperation with the Department of Educational Sciences of Masaryk University. Renowned Czech lecturers in experiential and reflective learning were invited to participate in the publication with a couple of foreign authors who are modern creators of theories or models of experiential learning, as acknowledged by a professional readership. The theories of the authors addressed are well known in the Czech milieu, so our intent was to learn more about their experience in the guidance of groups, their beliefs and practical procedures. The articles are in the form of interviews; the respondents were asked in writing about group work in which they have supported reflection, what experience they have of it, which objectives they have focused on, which procedures they have used in group work, what beliefs or theories they have based on them and what doubts they have faced in relation to reflection and experiential learning.

Nikolova, I., Van Ruysseveldt, J., De Wotte. J/ & Syroit, J. (2014). Work-based learning: Development and validation of a scale measuring the learning potential of the workplace (LPW) *Journal of Vocational Behavior.* 84(1): 1-10 $

The current study presents a multi-dimensional scale measuring the learning potential of the workplace (LPW), which is applicable across various occupational settings. Based on a comprehensive literature review, we establish four theoretically relevant dimensions of work-based learning, which together constitute the learning potential of the workplace. The psychometric characteristics of our instrument were examined among a sample of Dutch employees working in different organizations (N=1013). In this study, we tested the factorial structure and validity of the LPW-scale by conducting Confirmatory Factor Analyses, testing for measurement invariance and determining the scale's reliability. Subsequently, the LPW-instrument was cross-validated using SEM (AMOS 20.0). Furthermore, convergent, divergent, and construct validity were investigated. The results empirically supported the theory based four-factor structure of the LPW-scale and provided solid evidence for the sound psychometric properties of the study's instrument.

Nuangchalerm, P. (2014). Service learning in science teacher preparation program: Concepts and practices. *Chemistry: Bulgarian Journal of Science Education* 23(6): 815-828 *

Abstract: Service learning is now challenging higher education in the 21ˢᵗ century due to head, heart, and hands are employed. The concepts of service learning influenced to science teachers preparation program in terms of outcome-based education. This paper aims to represent concepts relevant to service learning in science teacher preparation program and also practices of how service learning meets the 21ˢᵗ century skills. Documentary analysis and empirical study are employed for qualitative explanation. Finding revealed that service learning is an important instructional strategy in science teacher preparation program and it needs to be incorporated into curriculum for developing 21ˢᵗ century science teachers.

Keywords: service learning, pre-service teacher, science teacher, teacher preparation

Nuzhat, A., Salem, R. O., Al Hamdan, N., & Ashour, N. (2013). Gender differences in learning styles and academic performance of medical students in Saudi Arabia. *Medical Teacher, 35*, S78-S82. doi: 10.3109/0142159x.2013.765545

Rationale: Teachers at medical school are often faced with challenges of improving student satisfaction with the learning environment. On the other hand, education in the medical field is very competitive and medical students are exposed to diverse methods of teaching. Students adapt specific learning styles to keep pace with the information delivered to them in their institutions. Objective: The aim of this study is to know the differences in learning styles between male and female students, and the effect it has on academic performance. Method: The VARK Questionnaire version 7.0 (Visual, Aural, Read/Write and Kinesthetic) was administered to the fourth year and fifth year medical students at King Saud Bin Abdul Aziz University for Health Sciences, Faculty of Medicine at King Fahad Medical City, Saudi Arabia for determining the preferred learning methods of students participating in this study. The learning styles were then compared to cumulative grade point average (GPA) obtained by the students. Result: The dominant learning style preference of students was multimodal. Among students who preferred unimodal preference, aural and kinesthetic preference was predominant for males and females. Moreover, Females had more diverse preferences than male students. Multimodal learners have higher cumulative GPAs when compared with the unimodal learners. Conclusion: This study revealed variation in learning style preferences among genders, and its implications on academic performance of medical students.

O

Obendorf, S., & Randerson, C. (2013). evaluating the model united nations: diplomatic simulation as assessed undergraduate coursework. *European Political Science, 12*(3), 350-364. doi: 10.1057/eps.2013.13

Increasingly, simulation-based teaching and learning is finding a place within politics and international relations (IR) programmes. The majority of literature on this style of teaching and learning has positioned it as both an aid to content delivery and as a response to the many challenges facing contemporary higher education. Little guidance is given, however, to the practical considerations of using simulations as a component of assessment or as informing assessed tasks. This article draws upon the experience of the authors in adapting the well-established Model United Nations (MUN) simulation

programme for delivery as an assessed module at a British university. This has involved balancing institutional teaching, assessment and validation requirements with the successful simulation of diplomatic practice. The article introduces the MUN simulation and explores the extant pedagogic literature encouraging the use of simulation-based learning in IR curricula, before moving on to provide an overview of the rationale for the various decisions the authors have made in adapting the simulation for delivery as an assessed curriculum component. The article asserts the value of introducing assessed simulations within IR coursework and provides guidance on how student performance in pedagogic simulations might best be assessed.

Ocepek, U., Bosnic, Z., Serbec, I. N., & Rugelj, J. (2013). Exploring the relation between learning style models and preferred multimedia types. *Computers & Education, 69*, 343-355. doi: 10.1016/j.compedu.2013.07.029 *

    There are many adaptive learning systems that adapt learning materials to student properties, preferences, and activities. This study is focused on designing such a learning system by relating combinations of different learning styles to preferred types of multimedia materials. We explore a decision model aimed at proposing learning material of an appropriate multimedia type. This study includes 272 student participants. The resulting decision model shows that students prefer well-structured learning texts with color discrimination, and that the hemispheric learning style model is the most important criterion in deciding student preferences for different multimedia learning materials. To provide a more accurate and reliable model for recommending different multimedia types more learning style models must be combined. Kolb's classification and the VAR classification allow us to learn if students prefer an active role in the learning process, and what multimedia type they prefer. (C) 2013 Elsevier Ltd. All rights reserved.

Oertel, R., & Antoni, C. H. (2013). When and how do teams learn? An integrated model of team learning considering temporal and situational influences. *Zeitschrift Fur Arbeits-Und Organisationspsychologie, 57*(3), 132-144. doi: 10.1026/0932-4089/a000116

    This paper develops an integrated and multidimensional concept of team learning, that integrates team learning processes (e. g. Edmondson, 1999) in a phase model of team processes (e. g. Marks, Mathieu & Zaccaro, 2001) and considers interruptive events (Zellmer-Bruhn, 2003) as situational triggers of team learning. Building on these theoretical considerations, questions for future research are derived and methodological implications discussed.

Oktay, J. S., Jacobson, J. M., & Fisher, E. (2013). Learning Through Experience: The Transition From Doctoral Student to Social Work Educator. *Journal of Social Work Education, 49*(2), 207-221. doi: 10.1080/10437797.2013.768108

    The researchers conducted an exploratory study using grounded theory qualitative research methods to examine experiences of social work doctoral students as they learned to teach (N = 14). A core category, learning through experience, representing a basic social process, was identified. The doctoral students experienced learning in three different areas: learning to establish authority, developing an effective teaching style, and integrating the broader context of social work education. This article provides detailed descriptions of learning through experience in each of these areas. Implications for

improving educational opportunities for doctoral students pursuing careers in academia are discussed.

O'Leary, C., & Stewart, J. (2013). The Interaction of Learning Styles and Teaching Methodologies in Accounting Ethical Instruction. *Journal of Business Ethics, 113*(2), 225-241. doi: 10.1007/s10551-012-1291-9 *
> Ethical instruction is critical for trainee accountants. Various teaching methods, both active and passive, are normally utilised when teaching accounting ethics. However, students' learning styles are rarely assessed. This study evaluates the learning styles of accounting students and assesses the interaction of teaching methods and learning styles in an ethics instruction environment. The ethical attitudes and preferred learning styles of a cohort (137) of final year accounting students were evaluated pre-instruction. They were then subject to three different teaching methods while studying ethics during an auditing course. When ethical attitudes and preferred learning styles were re-assessed post-instruction, the teaching methods were found to have influenced active learners more than passive ones. Furthermore, when learning styles matched teaching methods used, usefulness was assessed as high but when learning styles and teaching methods differed, usefulness deteriorated significantly. Students displayed a preference for passive learning styles, despite being so advanced in their education. The implications are that instructors should consider learning styles before deciding on appropriate teaching methods, in accounting ethics environments.

Oleson, A., & Hora, M. T. (2014). Teaching the way they were taught? Revisiting the sources of teaching knowledge and the role of prior experience in shaping faculty teaching practices. *Higher Education*, *68*(1), 29-45.
> An oft-cited maxim in higher education is that "faculty teach the way they were taught" because they receive little formal training in teaching before entering the classroom. However, little is known about the origins of faculty knowledge about teaching or the role their prior experiences play in the development of their teaching practices. In this exploratory study, we interviewed and observed 53 science, technology, engineering, and mathematics faculty at three research institutions. Using qualitative analysis methods (i.e., thematic and causal network analysis), we find that faculty do not only model their teaching after previous instructors, but also draw upon a varied repertoire of knowledge and prior experiences. These include knowledge derived from their experiences as instructors (46 respondents), their experiences as students (22 respondents), their experiences as researchers (9 respondents), and from their non-academic roles (10 respondents). In-depth analyses of two faculty members elaborate on the relationship between these varied types of prior experiences and how they interact with other factors including beliefs about teaching, instructional goals, and features of the organizational context to ultimately shape their classroom practice. The results suggest that instead of assuming that faculty lack any knowledge about teaching and learning, professional developers and policymakers should instead acknowledge and build upon their preexisting "craft" knowledge as professional teachers. Future research should focus on relationships between specific types of knowledge and teaching practice and how these varied experiences influence identity formation.

Oriot, D., Boureau-Voultoury, A., Ghazali, A., Breque, C., & Scepi, M. (2013). Value of simulation in pediatrics. *Archives De Pediatrie, 20*(6), 667-672. doi: 10.1016/j.arcped.2013.03.019

The authors present the concepts of simulation and its utilization in pediatrics. Simulation in medicine is a teaching method that has not yet been developed in Europe and has not spread in pediatrics in France. Motivations for simulation are first and foremost ethical: "Never the first time on patients!" Simulation also provides benefits in teaching communication skills and theoretical concepts. It is an essential means to maintain patient safety by limiting the risk of errors. It covers teaching procedures requiring realistic models such as in teaching communication and crisis resource management. Simulation can also be used for teaching disclosure of bad news, using actors. Simulation skills are acquired during debriefing, when the supervisor acts as a facilitator. Evaluation is mandatory in simulation, dependent on the how realistic the models are and on the performance of a procedure or multidisciplinary team management. Performance can be objectively assessed only with validated tools. Simulation will become a mandatory teaching method in medicine. (c) 2013 Elsevier Masson SAS. All rights reserved.

Osman, G., & Koh, J. H. L. (2013). Understanding management students' reflective practice through blogging. *Internet and Higher Education, 16*, 23-31. doi: 10.1016/j.iheduc.2012.07.001

The paper discusses the results of a study on the use of blogging to encourage students to engage in the making of theory-practice linkages and critical thinking within the context of a graduate management course. Sixty-five students participated in collaborative blogging for a period of five weeks. The transcripts of these blogs were analyzed using content analysis and chi-square analysis. The findings point to the potential of blogs as a tool for reflection and learning in practitioner-oriented courses. The participants demonstrated a reasonably high level of critical thinking and were able to link theory to their experiences and observations in the work place. The implications of these results for the design of blogging tasks are discussed. (C) 2012 Published by Elsevier Inc.

Ozgen, K. (2013). An Analysis of High School Students' Mathematical Literacy Self-efficacy Beliefs in Relation to Their Learning Styles. *Asia-Pacific Education Researcher, 22*(1), 91-100. doi: 10.1007/s40299-012-0030-4

The purpose of this study was to investigate high school students' mathematical literacy (ML) self-efficacy beliefs in relation to their learning styles. The participants were 388 high school students in Turkey. Data collection tools were a ML self-efficacy beliefs scale and a learning styles inventory. The data were analysed using chi(2) test, one-way analysis of variance and multiple regression analysis. The analyses indicated that students were mostly diverger learners and had a moderate level of ML self-efficacy belief, and that their levels of ML self-efficacy beliefs did not significantly differ in terms of their learning styles. The results revealed that ML self-efficacy beliefs scores differed in terms of learning styles and that converger learners had higher levels of self-efficacy beliefs. Moreover, the factors 'reflective observation' and 'perceiving knowledge' were found to be significant predictors of the ML self-efficacy belief. The negative effects of the learning style on learners' ML self-efficacy belief should be prevented. Undesirable differences between learners' ML beliefs can be avoided by letting mathematics teachers design and administer the learning processes according to their students' learning styles.

P

Pale, P. (2013). Intrinsic Deficiencies of Lectures as a Teaching Method. *Collegium Antropologicum, 37*(2), 551-559.

> Lectures were, still are and seem to remain a dominant form of teaching, despite an increased research and use of other methods of teaching and leverage of technology aimed at improving teaching results and efficiency. Learning, as the result of a lecture, greatly depends on the subject, the competence and abilities of the lecturer as well as on other transient causes. However, lectures also have some intrinsic deficiencies as a teaching method pertinent to their very nature. In order to fully understand the teaching value of lectures and their role and proper use in educational systems, their deficiencies have been studied in a theoretical analysis from the perspective of cognitive learning theories. Fifteen deficiencies have been identified and clustered in three categories based on root causes of deficiencies: synchronicity problems, time constraint and individual student abilities, needs and knowledge. These findings can be used to adjust expected learning outcomes of lectures, to properly (re)design lecture content and process and to design other learning and teaching activities that would compensate and complement lectures. Recommendations are given on replacing and amending lectures with other instructional methods, amending lectures in the course of delivery with additional content and tools and complementing lectures after delivery with content, tools and activities. Suggestions on the use of information technology that could substitute, reduce or eliminate at least some of the deficiencies are made. Lecture captures seem to be valuable supplement for live lectures compensating in all three categories of deficiencies. Suggestions and directions for further research are given.

Pappas, E., Pierrakos, O., & Nagel, R. (2013). Using Bloom's Taxonomy to teach sustainability in multiple contexts. *Journal of Cleaner Production, 48*, 54-64. doi: 10.1016/j.jclepro.2012.09.039

> Developmental instruction in four sustainability contexts (social, environmental, economic, technical) in an engineering design curriculum offers a strong foundation and framework upon which to build an engineering program that teaches students the necessary methodologies for designing for sustainability. Instruction in sustainability contexts described in this paper employs a developmental approach using Bloom's Taxonomy of Educational Objectives, which is a way to classify instructional activities or questions as they progress in cognitive difficulty. This paper describes a methodology and the results of a National Science Foundation-funded 3-year instructional grant that integrates sustainability instruction in four contexts into a six-course design curriculum using a developmental approach. Results indicate that students analyze sustainability case studies and move developmentally through six levels of Bloom's Taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation with increasing skill. As well, even though students were not instructed to include in their case study responses any other context than the assigned one, they included other contexts at increasing rates over the three stages of the study. This indicated an increasing ability to think using a systems theory perspective by including other related sustainability contexts. (C) 2012 Elsevier Ltd. All rights reserved.

Park, H. S., Cho, G. Y., Kim, D., Kim S. & Kim M. S. (2013). *Journal of Korean Biological Nursing Science* 01/2013; 15(4). DOI: 10.7586/jkbns.2013.15.4.155

ABSTRACT Purpose: The purpose of this study was to identify the mediating effect of confidence for drug calculation in the relationship between interest in medication and drug calculation competency using learning style. Methods: Participants in this study were 421 nursing students from Busan and Kyungnam province. The scales of learning style, interest in medication, importance of perception, confidence for drug calculation, and drug calculation competency for nursing students were used in this study. Descriptive statistics, -test, t-test, Pearson correlation coefficient, and stepwise multiple regression were used for data analysis. Results: Learning styles of the participants were diverger 19.0%, accommodator 30.9%, converger 21.1%, and assimilator 29.0%. The drug dose calculation competency of participants was relatively low with a mean score 66.73. There were significant positive correlations among drug dose calculation competency, interest in medication (r=.31, p

Paterson, C., & Chapman, J. (2013). Enhancing skills of critical reflection to evidence learning in professional practice. *Physical Therapy in Sport, 14*(3), 133-138. doi: 10.1016/j.ptsp.2013.03.004 $

Professional organisations and regulatory bodies are making critical reflection a mandatory component of professional practice. Reflection is a vital part of learning from experience and is central to developing and maintaining competency across a practitioner's lifetime. This paper will discuss key educational theories to illustrate why reflection is important. Kolb's and Gibbs' reflective cycles are used to structure the process of critical reflection. Elements of the educational tradition of Bildung are discussed and integrated to enrich the understanding of self and to facilitate the reader's ability to enhance their professional practice. (c) 2013 Elsevier Ltd. All rights reserved.

Patton, W. & McMahon, M. (2014). *Career Development and Systems Theory: Connecting Theory and Practice.* Rotterdam, the Netherlands: Sense Publishers

Pellon, M., Nome, S., & Aran, A. (2013). Relationship between learning styles and academic performance of fifth graders enrolled in the medical course. *Revista Brasileira De Oftalmologia, 72*(3), 181-184.

Objective: The aim of this study was to determine the learning styles of fifth-year medical students who attended the ophthalmology course and to also determine the correlation with their academic performance. Methods: Kolb'slearning style and neurolinguistic programming (NLP) questionnaires were applied and related to the final grades obtained. The variables were analyzed using Pearson's r test. Results: I trevealed a relation between the variables of learning styles and academic performance (p <= 0.05). According to Kolb's model, students with better performance were reflective style and according to the NLP model, students with visual style. Conclusion: learning styles variables from the NLP mode land Kolb, acting in dependently of the academic performance of students in a medical career, marking the highest preference for the visual style and reflective questionnaires applied based on both models. this study is consistent with other research in this field conducted with students of the same race.

Peng, A. C., Van Dyne, L., & Oh, K. (2014). The Influence of Motivational Cultural Intelligence on Cultural Effectiveness Based on Study Abroad The Moderating Role of Participant's Cultural Identity. *Journal of Management Education*, 1052562914555717.

> This study examines the influence of motivational cultural intelligence (CQ) on the development of cultural effectiveness among university short-term business study abroad program participants. We conceptualize cultural effectiveness as the degree of psychological comfort and success in managing intercultural demands. Results of a multiple-source, two-wave lagged study demonstrate that initial levels of motivational CQ were positively associated with increases in (a) cultural well-being reported by participants and (b) peer perceptions of suitability for overseas work. In addition, cultural identity, an individual's psychological identification with his or her own national culture, strengthened the time-lagged relationship between motivational CQ and peer-rated suitability for overseas work. Participants with strong cultural identity and low motivational CQ were viewed as the least suitable for an

Penttinen, L., Skaniakos, T., & Lairio, M. (2013). Supporting students' pedagogical working life horizon in higher education. *Teaching in Higher Education, 18*(8), 883-894. doi: 10.1080/13562517.2013.795936 $

> In this article, we introduce a model of a pedagogical working life horizon. It encompasses questions posed by individual students concerning their future and incorporates the idea of a working life orientation to the pedagogical possibilities within education. Working life orientation consists of three elements: individual relationship, knowledge and skills and employability. In the model, we aim to outline how an orientation to working life might be included in higher education, providing a broad perspective on the various pedagogical possibilities. There are two key pedagogical elements supporting the implementation of the pedagogical working life horizons model: reflection and an inquiring attitude. Our inquiry is a synthesis of socio-constructionist theories of career guidance, a review of international writing on career guidance and working life skills in higher education, adult learning theories and of our practical experiences as educators and scholars in the fields of guidance and adult education.

Peterson, K., DeCato, L. & Kolb, D. A. (2014). Moving and Learning: Expanding Style and Increasing Flexibility. Accepted in *Journal of Experiential Education.*

> This article introduces ways in which movement can enhance one's understanding of how they learn using Experiential Learning Theory (ELT) concepts of the Learning Cycle, Learning Styles and Learning Flexibility. Movement flexibility provides a catalyst for learning and promotes learning flexibility. The theoretical correspondence between the dialectic dimensions of the Experiential Learning Cycle and the dimensions of the Laban Movement Analysis system create an integrated typology of learning and movement styles that expands the description of learning style to include the movement affinities. Based on movement observations and interviews of over 200 adult learners descriptions of the movement patterns of each of the nine styles in the Kolb Learning Styles Inventory 4.0 (KLSI 4.0) are given. Results suggest that increasing one's movement repertoire and flexibility can increase learning flexibility.

Peterson, K. & Rutledge, M. (2014). Creating adaptive leaders and organizations: Advantages of the new Kolb learning cycle and styles as compared with the MBTI. *OD Practitioner**

> In our OD and coaching practice, we encourage leaders to center their learning practice in "personal mastery" (Senge, Kleiner, Roberts, Ross, & Smith, 1994, p. 193) that begins with self-awareness and awareness of others. We use assessments and frameworks to raise awareness. One of us has used the Myers Briggs Type Indicator (MBTI) for many years and we both now use the Kolb Learning Styles Inventory 4.0 (KLSI 4.0). We have both long found the Learning Cycle to be an effective way to raise our clients' awareness of their own and others' adaptive processes. As we have continued to explore the MBTI and KLSI 4.0 and their theoretical frameworks, we have compared what each one describes, how it sees human development, how it treats opposite styles, and how easy it is to use.

Poncelet, A. & Hirsh, D. (2014). Longitudinal Integrated Clerkships. Chapter 10 in Hansen, L., Wamsley, M., Brooks, K., Shore, W., Cohen, P., Gaufberg, M. D., ... & Strasser, S. Longitudinal Integrated Clerkships (LIC). *Guidebook for Clerkship Directors*, 173 Published by Alliance for Clinical Education

> A longitudinal integrated clerkship is characterized by being the central element of clinical education whereby medical students:(1) participate in the comprehensive care of patients over time;(2) participate in continuing learning relationships with these patients' clinicians

Poole, G., Jones, L., & Whitfield, M. (2013). Helping students reflect: lessons from cognitive psychology. *Advances in Health Sciences Education, 18*(4), 817-824. doi: 10.1007/s10459-012-9373-0

> The challenges of teaching students to reflect on experience and, thus, learn from it, are better understood with the application of constructs from cognitive psychology. The present paper focuses on two such constructs-self-schemas and scripts-to help educators better understand both the threats and opportunities associated with effective reflection. Emotion is presented as an important accompaniment to reflection. Suggestions are presented, using the notions of self-schemas and scripts, to help students manage the emotion associated with reflection and to enhance the value of that reflection.

Prentice, C., & King, B. E. M. (2013). Emotional intelligence and adaptability - Service encounters between casino hosts and premium players. *International Journal of Hospitality Management, 32*, 287-294. doi: 10.1016/j.ijhm.2012.06.004 $

> The premium player segment has been widely acknowledged as the largest single contributor to casino revenues. So-called casino hosts are an important influence on player perceptions of service quality and ultimately on loyalty and casino profitability in

their capacity as service representatives servicing this segment. To date little research has investigated the relationship between casino hosts and premium players. This study focused on service encounters between casino hosts and premium players, particularly in the case of relationships between emotional intelligence, adaptability and the service performance of casino hosts. A mediation model involving these constructs was proposed and tested, drawing upon theory and the relationship that has been established between basic personality traits and surface traits. In the current study emotional intelligence was identified as a basic personality trait, and adaptability is viewed as a surface trait. The results arising from a structural equation analysis confirmed the validity of the mediation model and found that the inclusion of adaptability as a mediator into the relationship between emotional intelligence and service performance provided a greater proportion of variance than a model which excluded mediation. Based on the research findings implications for researchers and practitioners were outlined.

Price, C. A., & Lee, H. S. (2013). Changes in participants' scientific attitudes and epistemological beliefs during an astronomical citizen science project. *Journal of Research in Science Teaching, 50*(7), 773-801. doi: 10.1002/tea.21090

Citizen science projects provide non-scientists with opportunities to take part in scientific research. While their contribution to scientific data collection has been well documented, there is limited research on how participation in citizen science projects may affect their scientific literacy. In this study, we investigated (1) how volunteers' attitudes towards science and epistemological beliefs about the nature of science changed after six months of participation in an astronomy-themed citizen science project and (2) how the level of project participation related to these changes. Two main instruments were used to measure participants' scientific attitude and epistemological beliefs and were administered before they registered for the program and six months after their registration. For analysis, we used pre- and post-test data collected from 333 participants who responded to both tests. Among them, nine participants were randomly chosen for interviews. Participants' responses were analyzed using the Rasch Rating Scale Model. Results show that overall scientific attitudes changed positively, p<0.01. The change was strongest in attitudes towards science news and citizen science projects. The scientific attitudinal change was related to participant social activity in the project. There was a negative change in their evaluation of their knowledge. The interviews suggest that this is due to a greater appreciation for what they have yet to learn. Epistemological beliefs about the nature of science significantly improved from the pre- to the post-tests, p<0.05. Overall, we found volunteers' participation in social components of the program was significantly related to their improvement in scientific literacy while other project participation variables (such as amount of data contributed to the project) was not.

Proctor, M. D., & Marks, Y. (2013). A survey of exemplar teachers' perceptions, use, and access of computer-based games and technology for classroom instruction. *Computers & Education, 62*, 171-180. doi: 10.1016/j.compedu.2012.10.022

This research reports and analyzes for archival purposes surveyed perceptions, use, and access by 259 United States based exemplar Primary and Secondary educators of computer-based games and technology for classroom instruction. Participating respondents were considered exemplary as they each won the Milken Educator Award

during the 1996-2009 computer era. Overall perceptions are reported along with trend, differences in perceptions by subject area taught, and differences in perception by Primary and Secondary teacher population categories. Overall game usage is reported along with association of perceptions with game usage as well as usage differences due to grade category. Among other findings, adoption of computer-based games for educational use in the classroom by exemplar Primary teacher populations appeared to be in the Late Majority stage of the Rogers Technology Adoption Curve while adoption in the classroom by exemplar Secondary teacher populations appeared to be in the beginning of the Early Majority stage.

Q

Quillin, R. C., Pritts, T. A., Hanseman, D. J., Edwards, M. J., & Davis, B. R. (2013). How Residents Learn Predicts Success in Surgical Residency. *Journal of Surgical Education, 70*(6), 725-730. doi: 10.1016/j.jsurg.2013.09.016 *

BACKGROUND: Predictors of success in surgical residency have been poorly understood. Previous studies have related prior performance to future success without consideration of personal attributes that help an individual succeed. Surgical educators should consider how residents learn to gain insight into early identification of residents at risk of failing to complete their surgical training. METHODS: We examined our 14-year database of surgical resident learning-style assessments, Accreditation Council for Graduate Medical Education operative log data of graduating residents from 1999 to 2012, first time pass rates on the American Board of Surgery Qualifying and Certifying examinations, and departmental records to identify those residents who did not complete their surgery training at our institution. Statistical analysis was performed using the chi-square test, Wilcoxon rank-sum, and regression analysis with significance set at $p < 0.05$. RESULTS: We analyzed 441 learning-style assessments from 130 residents. Surgical residents are predominantly action-based learners, with converging (219, 49.7%) and accommodating (112, 25.4%) being the principal learning styles. Assimilating (66, 15%) and diverging (44, 10%) learning styles, where an individual learns by observation, were less common. Regression analysis comparing learning style with case volume revealed that residents who are action-based learners completed more cases at graduation ($p < 0.05$ for each). Additionally, surgical residents who transferred to a nonsurgical residency or nonphysician field were more likely to learn by observation ($p = 0.0467$). CONCLUSIONS: Surgical residents are predominantly action-based learners. However, a subset of surgical residents learn primarily by observation. These residents are at risk for a less robust operative experience and not completing surgical training. Learning-style analysis may be utilized by surgical educators to identify the potential at-risk residents in general surgery.

R

Race, P. (2014). *Making learning happen: a guide for post-compulsory education*. Sage.

In the age of digital communication, online learning and MOOCS, teachers and lecturers need to be able to offer even more to their students.

> Centered around Phil Race's well-known ripples on a pond model, this accessible discussion of post-compulsory education identifies the fundamental factors underpinning successful learning and clearly shows you how to help students learn effectively. Updates to this third edition include: practical tips for students to help you to engage your group discussion of four literacies students need comparative discussion of different forms of assessment increased coverage of peer observation and evidence-based practice advice on making lectures unmissable online resources including printable checklists for use in class link to a video interview with the author. This book is a valuable tool for lecturers and tutors in universities and colleges, post-16 teachers in secondary education, and educational managers. It also provides a useful resource for postgraduate students on higher and further education courses and staff development courses. Phil Race gives keynotes on assessment, feedback, learning and teaching, and runs interactive training workshops for staff and students in universities, colleges and other organizations throughout the UK and abroad. The author's website can be found at: http://phil-race.co.uk.

Rainey M. A. & Kolb, D. A. (2014). Organization leadership: Leading in a learning way. In Jones, B. B. & Brazzel, M. (Eds.) *The NTL Handbook of Organization Development and Change: Principles, Practices, and Perspectives*. p 329-348 Arlington, VA: NTL Institute *
> A constantly changing environment is one of the most daunting challenges facing organizations today. When organizations are confronted with difficult challenges, learning becomes the best option for leadership. We use experiential learning theory (Kolb, 1984) as the epistemological lens through which to establish leadership as a wholly integrated process of learning and adaptation. When defined holistically as the basic means by which humans adapt to the world, learning subsumes the process of leadership. We introduce the Relationship Strategy Vision Performance (RSVP) Fundamentals of Leadership Model. Based on experiential learning theory (ELT), the RSVP Model is a typology of four essential functions --- Relationship Mastery, Strategy Mastery, Vision Mastery and Performance Mastery --- that represent an adaptive approach to leadership. For effective leadership to occur, leaders must be able to execute all four functions in a way that is responsive to the context and the problem at hand. The underlying message of ELT is there is no one leadership style; rather, leadership is a multi-functional process requiring a broad range of proficiency. With ELT, Organization Development and Human Resources professionals, coaches, supervisors and others interested in the study and practice of leadership have a theoretically sound and well-established frame of reference to guide leaders in today's uncertain environment. Strategies for leadership education, training and development are identified.

Raveesh, R. D., Deegan, B. F. & Klena, J. C. (2014). The learning styles of orthopedic residents faculty, and applicants at an academic program. *Journal of Surgical Education* 71(1): 110-118
> Background
> To train surgeons effectively, it is important to understand how they are learning. The Kolb Learning Style Inventory (LSI) is based on the theory of experiential learning,

which divides the learning cycle into 4 stages: active experimentation (AE), abstract conceptualization (AC), concrete experience, and reflective observation. The purpose of this investigation was to assess the learning styles of orthopedic residents, faculty, and applicants at an east-coast residency program.
Methods
A total of 90 Kolb LSI, Version 3.1 surveys, and demographic questionnaires were distributed to all residency applicants, residents, and faculty at an academic program. Data collected included age, sex, type of medical school (MD or DO), foreign medical graduate status, and either year since college graduation, postgraduate year level (residents only), or years since completion of residency (faculty only). Seventy-one completed Kolb LSI surveys (14 residents, 14 faculty members, and 43 applicants) were recorded and analyzed for statistical significance.
Results
The most prevalent learning style among all participants was converging (53.5%), followed by accommodating (18.3%), diverging (18.3%), and assimilating (9.9%) ($p = 0.13$). The applicant and resident groups demonstrated a high tendency toward AE followed by AC. The faculty group demonstrated a high tendency toward AC followed by AE. None of the 24 subjects who were 26 years or under had assimilating learning styles, in significant contrast to the 12% of 27- to 30-year-olds and 18% of 31 and older group ($p < 0.01$).
Conclusions
The majority of applicants, residents, and faculty in the orthopedic residency program were "convergers." The converging learning style involves problem solving and decision making, with the practical application of ideas and the use of hypothetical-deductive reasoning. Learning through AE decreased with age, whereas learning through AC increased.

Ratta, C. B. D. (2014). Flipping the Classroom With Team-Based Learning in Undergraduate Nursing Education . *Nurse Educator (NURS EDUC)*   DOI: 10.1097/NNE.0000000000000112
Source: PubMed

ABSTRACT This article describes the use of team-based learning (TBL) within a flipped classroom setting in an undergraduate nursing course. TBL facilitates active learning through the use of small group, classroom activities. Students used classroom time to solve problems while developing important professional competencies. A preclass PowerPoint lecture with narration, a component of the flipped classroom, was added to address student feedback. Despite mediocre course evaluations, improved student performance on the final course examination was noted.

Rienties, B., Heliot, Y., & Jindal-Snape, D. (2013). Understanding social learning relations of international students in a large classroom using social network analysis. *Higher Education, 66*(4), 489-504. doi: 10.1007/s10734-013-9617-9

A common assumption in higher education is that international students find it difficult to develop learning and friendship relations with host students. When students are placed in a student-centred environment, international students from different cultural backgrounds are "forced" to work together with other students, which allows students to learn from different perspectives. However, large lecture rooms may provide fewer opportunities for

students to work together in small groups. The purpose of this article is to understand how 191 international students from 34 cultural backgrounds and 16 host students build learning and friendship relations in a large classroom of 207 students. We have used an innovative mixed-method design of social network analysis in a pre- and post-test manner combined with two sets of focus groups. Using multiple regression quadratic assignment procedures, the results indicate that learning ties after 11 weeks were significantly predicted by the friendship and learning ties established at the beginning of the module, (sub)specialisation, and whether students were Chinese or not. Contrary to previous findings, team divisions played only a marginal role in building (new) learning relations. A substantial segregation between Confucian Asian, European international and UK students was present. Follow-up qualitative data highlighted that international students made a conscious effort to build friendship and learning relations primarily outside the formal team, which for some were along co-national lines, while others were pro-actively looking for new perspectives from multi-national students. These results indicate that the instructional design might have a strong influence on how international and host students work and learn together. We believe that this study is the first to provide an in-depth and unique understanding of how international students from different cultural backgrounds build friendship and learning-relationships with other students in- and outside their classroom over time in a large classroom of 200+ students.

Rientis, B. & Tempelaar, D. (2013). The role of cultural dimensions of international and Dutch students on academic and social integration and academic performance in the Netherlands. *International Journal of Intercultural Relations* Volume 37, Issue 2, March 2013, Pages 188–201

A common belief among educators is that international students are insufficiently adjusted to higher education in their host country, both academically and socially. Furthermore, several groups of international students experience considerable amounts of stress while adapting to the culture of the host-institute, but limited research has addressed whether and how transitional issues influence academic performance. In a cross-institutional comparison among 1275 students at nine higher educational institutes in the Netherlands, differences in academic performance between Dutch and international students were identified by focussing on their levels of academic and social integration. Students' academic integration was measured with the Students' Adaptation to College Questionnaire (SACQ), while students' social integration was measured by the Social Integration Questionnaire. Afterwards, 757 international students from 52 countries were clustered into nine geographical clusters using Hofstede's cultural dimension scores. The results indicate that some groups of international students experience considerable personal–emotional and social adjustment issues, while other groups of international students adjust fairly straightforward. In particular, international students from Confucian Asia score substantially lower on academic integration than their Western peers, with moderate to strong effect sizes. The cultural dimensions of Hofstede significantly predicted academic adjustment and social adjustment, in particular power–distance (negative), masculinity and uncertainty avoidance (both positive). Follow-up multi-level analyses show that academic adjustment is the primary predictor for academic success. The results imply that higher educational institutes should focus on facilitating academic adjustment of (Bachelor) international students, in particular non-Western students.

Rivers, B. A. A., Richardson, J. T., & Price, L. (2014). Promoting reflection in asynchronous virtual learning spaces: Tertiary distance tutors' conceptions. *The International Review of Research in Open and Distributed Learning*, *15*(3). *

> Increasingly, universities are embedding reflective activities into the curriculum. With the growth in online tertiary education, how effectively is reflection being promoted or used in online learning spaces? Based on the notion that teachers' beliefs will influence their approaches to teaching, this research sought to understand how a group of distance tutors at the UK Open University conceptualised reflection. It was hoped that these findings would illuminate their approaches to promoting reflection as part of their online pedagogies. Phenomenographic analysis indicated that these tutors conceptualised reflection in four qualitatively different ways. Furthermore, the data suggested that these educators held a combination of two conceptions: one that understood the origin of being reflective and one that understood the purpose of reflection. Analysis of structural aspects of these conceptions offered insight into tutors' own perspectives for what is needed to make online learning environments fertile territory for reflective learning.

Roholt, R. V., & Fisher, C. (2013). Expect the Unexpected: International Short-Term Study Course Pedagogies and Practices. *Journal of Social Work Education, 49*(1), 48-65. doi: 10.1080/10437797.2013.755416

> Given the United States' population changes and the increasing impact of globalization, international context and experience in the MSW curriculum are essential. Gaining popularity as a vehicle for such experience are short-term international courses, defined as educational trips outside the United States lasting from 1 to 3 weeks. To achieve desired outcomes, courses must include both strong course curriculum and pedagogical approaches that support learning from experience and critical reflection. In this article, we describe our short-term international MSW school-supported course methodology. We use three critical incidents to illustrate tensions and challenges inherent in MSW study abroad programs. Finally, we offer three pedagogical approaches to deepen and enhance learning in short-term international courses: experiential learning, transformative learning, and decolonizing pedagogy.

Rosenberg, P., Sikstrom, S., & Garcia, D. (2013). The difference between living biblically and just imagining it: A study on experiential-based learning among Swedish adolescents. *School Psychology International, 34*(5), 566-572. doi: 10.1177/0143034312471468 $

> As an assignment in their course on worldwide religions, a group of Swedish High School pupils followed 12 biblical rules for two weeks, while another group from the same school just imagined the experience. Groups were asked to reflect and write down either how it was (experience) or how it would have been (imagine) to follow the rules. By applying a semantic test, based on a Latent Semantic Analysis generated representation of the statements, we first found that the semantic representations of the written reflections differed between the experience and imagine groups, and between gender. Analysis of word frequency count suggests that the group that followed the rules were more likely to use words related to their task in their reflections, while the group that imagined the experience generated words related to themselves and problems. The

results suggest that the consequences of learning by experience might culminate in greater student engagement.

Rosenblatt, V., Worthley, R., & MacNab, B. (2013). From Contact to Development in Experiential Cultural Intelligence Education: The Mediating Influence of Expectancy Disconfirmation. *Academy of Management Learning & Education, 12*(3), 42-65. doi: 10.5465/amle.2012.0199

Cultural intelligence (CQ) has emerged as a promising capability that allows individuals to enhance their intercultural effectiveness. However, little is known about factors and processes supporting its development. In a longitudinal study involving pre- and postintervention measures of CQ, we explored the role of the individual perception of optimal cross-cultural contact and the experience of expectancy disconfirmation. The study was conducted among 212 management students and professionals who partook in an experiential CQ education intervention encompassing cross-cultural contact as part of a university management course. The results of our work reveal that the relationship between participants' perception of optimal cross-cultural contact and CQ development is mediated by the experience of expectancy disconfirmation. When participants perceived optimal cross-cultural contact, which involved a number of conditions including equal status among participants, personalized contact, establishment of common goals, and support of the contact by authorities, they were more likely to experience expectancy disconfirmation. In turn, greater experience of expectancy disconfirmation was associated with greater CQ development. Researchers, educators, and managers who understand the factors and processes supporting CQ development are better equipped to prepare individuals for greater effectiveness in a variety of cultural contexts.

Rudolph, J. Raemer, D. B. & Simon, R. (2014). Establishing a Safe Container for Learning in Simulation: The Role of the Pre-simulation Briefing. *Simulation in healthcare: journal of the Society for Simulation in Healthcare (Simulat Healthc J Soc Med Simulat* DOI: 10.1097/SIH.0000000000000047

ABSTRACT In the absence of theoretical or empirical agreement on how to establish and maintain engagement in instructor-led health care simulation debriefings, we organize a set of promising practices we have identified in closely related fields and our own work. We argue that certain practices create a psychologically safe context for learning, a so-called safe container. Establishing a safe container, in turn, allows learners to engage actively in simulation plus debriefings despite possible disruptions to that engagement such as unrealistic aspects of the simulation, potential threats to their professional identity, or frank discussion of mistakes. Establishing a psychologically safe context includes the practices of (1) clarifying expectations, (2) establishing a "fiction contract" with participants, (3) attending to logistic details, and (4) declaring and enacting a commitment to respecting learners and concern for their psychological safety. As instructors collaborate with learners to perform these practices, consistency between what instructors say and do may also impact learners' engagement.

Rue, J., Font, A & Cebrian, G. (2013) Towards high-quality reflective learning amongst law undergraduate students: analysing students' reflective journals during a problem-based learning course. *Quality in Higher Education* 07/2013; 19(2). DOI: 10.1080/13538322.2013.802575

ABSTRACT There is wide agreement that problem-based learning is a key strategy to promote individual abilities for 'learning how to learn'. This paper presents the main contributions that reflective journals and the problem-based learning approach can make to foster professional knowledge and quality learning in higher education. Thirty-six reflective journals and semi-structured interviews conducted with law undergraduate students participating in a problem-based learning course are analysed. The findings from this case study suggest that problem-based learning contributes to: improve professionalisation of vocational studies; develop general skills such as communication and teamwork; bridge the gap between theory and practice; and foster self-regulation and autonomous learning amongst students. Reflective journals, peers' cooperation and collaboration and the supportive role of educators are fundamental aspects of problem-based learning, which empower students in their own learning. Reflection nurtures the quality of learning and needs to be considered as an applicable learning strategy for professional and non-professional disciplines in higher education.

S

Sadowski, J., Seager, T. P., Selinger, E., Spierre, S. G., & Whyte, K. P. (2013). An Experiential, Game-Theoretic Pedagogy for Sustainability Ethics. *Science and Engineering Ethics, 19*(3), 1323-1339. doi: 10.1007/s11948-012-9385-4

The wicked problems that constitute sustainability require students to learn a different set of ethical skills than is ordinarily required by professional ethics. The focus for sustainability ethics must be redirected towards: (1) reasoning rather than rules, and (2) groups rather than individuals. This need for a different skill set presents several pedagogical challenges to traditional programs of ethics education that emphasize abstraction and reflection at the expense of experimentation and experience. This paper describes a novel pedagogy of sustainability ethics that is based on noncooperative, game-theoretic problems that cause students to confront two salient questions: "What are my obligations to others?" and "What am I willing to risk in my own well-being to meet those obligations?" In comparison to traditional professional ethics education, the game-based pedagogy moves the learning experience from: passive to active, apathetic to emotionally invested, narratively closed to experimentally open, and from predictable to surprising. In the context of game play, where players must make decisions that can adversely impact classmates, students typically discover a significant gap between their moral aspirations and their moral actions. When the games are delivered sequentially as part of a full course in Sustainability Ethics, students may experience a moral identity crisis as they reflect upon the incongruity of their self-understanding and their behavior. Repeated play allows students to reconcile this discrepancy through group deliberation that coordinates individual decisions to achieve collective outcomes. It is our experience that students gradually progress through increased levels of group tacit knowledge as they encounter increasingly complex game situations.

Saharabudhe, V. & Kanungo, S. (2014). Appropriate media choice for e-learning effectiveness: Role of learning domain and learning style.
Computers & Education. 07/2014; 76:237–249. DOI: 10.1016/j.compedu.2014.04.006
        ABSTRACT As the number of online education and training programs increase,

researchers and practitioners are interested in investigating ways to design and develop effective e-learning programs. One of the major design decisions that affects learning effectiveness is the choice of media to present the contents of such programs. The prevailing tendency seems to be to use "richer" medium, in the progression from text to graphics to audio to video, for designing and developing e-learning programs. It is not clear, however, if a "richer" medium provides proportionately higher learning effectiveness. To investigate this gap in our understanding, we developed an integrated research model and tested it empirically. Our results showed that the relationship between media choice in an e-learning program and the effectiveness of that program is moderated by the learning domain of the program and the learning styles of learners.

Saldert, C., Backman, E., & Hartelius, L. (2013). Conversation partner training with spouses of persons with aphasia: A pilot study using a protocol to trace relevant characteristics. *Aphasiology, 27*(3), 271-292. doi: 10.1080/02687038.2012.710317

> Background: Conversation partner training can be effective in improving communication in aphasia. However, there is a need for further research about effects of specific training programmes as well as about the relevant characteristics of the conversation partners who are to be candidates for training. Aims: This pilot study explores the applicability of an adaptation of a conversation partner training programme. In addition, a protocol for assessment of variables relating to the person with aphasia and the conversation partner that may be involved in changes in conversational interaction is examined. Methods & Procedures: Three dyads with persons with aphasia and their spouses participated in this explorative study with a case-series design. The training outcome was monitored with measures of perceived functional communication and analysis of multiple video-recorded natural conversations obtained at baseline, post intervention, and at a 12-week follow-up. Repeated measures of comprehension, word fluency, and psychological well-being were obtained as well as descriptive measures of the executive function and a profiling of attitudes and behaviour in communication in the spouses. Outcomes & Results: All three persons with aphasia and two of the spouses reported a slight improvement in the measure of perceived functional communication. This perception of improvement was also reflected in blinded, independent assessments of ability to support communication in conversations for the two spouses who reported improvement. The profiling of the third spouse indicated problems in attitudes to communication and also in aspects of executive function, and may account for the lack of intervention effects seen in the third dyad. Conclusions: The results show that intervention with the adapted training programme may be effective. It might be argued that the outcome measures as well as other measures fulfil their purpose. The profiling of relevant traits in the conversation partner may be useful, although the prognostic validity of the instruments needs to be further evaluated.

Saleh, G. M., Lamparter, J., Sullivan, P. M., O'Sullivan, F., Hussain, B., Athanasiadis, I., . . . Gillan, S. N. (2013). The international forum of ophthalmic simulation: developing a virtual reality training curriculum for ophthalmology. *British Journal of Ophthalmology, 97*(6), 789-792. doi: 10.1136/bjophthalmol-2012-302764

> Background To investigate the effect of a structured, supervised, cataract simulation programme on ophthalmic surgeons in their first year of training, and to evaluate the

level of skill transfer. Methods Trainees with minimal intraocular and simulator experience in their first year of ophthalmology undertook a structured, sequential, customised, virtual reality (VR) cataract training programme developed through the International Forum of Ophthalmic Simulation. A set of one-handed, bimanual, static and dynamic tasks were evaluated before and after the course and scores obtained. Statistical significance was evaluated with the Wilcoxon sign-rank test. Results The median precourse score of 101.50/400 (IQR 58.75-145.75) was significantly improved after completing the training programme ((postcourse score: 302/400, range: 266.25-343), p<0.001). While improvement was evident and found to be statistically significant in all parameters, greatest improvements were found for capsulorhexis and antitremor training ((Capsulorhexis: precourse score=0/100, range 0-4.5; postcourse score=81/100, range 13-87.75; p=0.002), (antitremor training: precourse score=0/100, range 0-0; postcourse score=80/100, range 60.25-91.50; p=0.001)). Conclusions Structured and supervised VR training can offer a significant level of skills transfer to novice ophthalmic surgeons. VR training at the earliest stage of ophthalmic surgical training may, therefore, be of benefit.

Salgado, J. F., & Tauriz, G. (2014). The Five-Factor Model, forced-choice personality inventories and performance: A comprehensive meta-analysis of academic and occupational validity studies. *European Journal of Work and Organizational Psychology, 23*(1), 3-30. doi: 10.1080/1359432x.2012.716198 $

This article reports a comprehensive meta-analysis of the criterion-oriented validity of the Big Five personality dimensions assessed with forced-choice (FC) inventories. Six criteria (i.e., performance ratings, training proficiency, productivity, grade-point average, global occupational performance, and global academic performance) and three types of FC scores (i.e., normative, quasi-ipsative, and ipsative) served for grouping the validity coefficients. Globally, the results showed that the Big Five assessed with FC measures have similar or slightly higher validity than the Big Five assessed with single-stimulus (SS) personality inventories. Quasi-ipsative measures of conscientiousness (K=44, N=8794, =.40) are found to be better predictors of job performance than normative and ipsative measures. FC inventories also showed similar reliability coefficients to SS inventories. Implications of the findings for theory and practice in academic and personnel decisions are discussed, and future research is suggested.

Salim Hakan, C. (2014). The investigation of academicians' learning styles in school of physical education and sports in Turkey. *Educational Research and Reviews* 04/2011; 6:326-333

ABSTRACT: This study was carried out with the purpose of determining the academicians' learning styles in school of physical education and sports and whether there was a relationship between their learning styles and gender, age, appellation and the department they worked or not. In the study survey method that was used. The sample of the study consisted of 206 academicians who were working in public Schools of Physical Education and Sports (n=183) and Schools of Sport Science and Technology (n=23). "The Kolb Learning Styles Inventory" which was developed by Kolb (1985) and adapted to Turkish by Askar and Akkoyunlu (1993) was used as data collection tool. In the analysis of data, frequency and percentages were used, the relationships among variables were investigated with chi square statistical method. The level of significance was

accepted as 0.05. The results revealed that, the academicians in the School of Physical Education and Sports had 47.6% converging, 30.1% assimilating, 11.7% diverging, 10.7% accommodating learning styles and there was no significant difference between their learning styles and gender, age, appellation and the department they worked (P>0.05).

Schenck, J. & Cruickshank, J. (2014). Evolving Kolb: Experiential education in the age of neuroscience. *Journal of Experiential Education.* 38(1): 73-95*

Abstract

In pursuing a refined Learning Styles Inventory (LSI), Kolb has moved away from the original cyclical nature of his model of experiential learning. Kolb's model has not adapted to current research and has failed to increase understanding of learning. A critical examination of Kolb's experiential learning theory in terms of epistemology, educational neuroscience, and model analysis reveals the need for an experiential learning theory that addresses these issues. This article re-conceptualizes experiential learning by building from cognitive neuroscience, Dynamic Skill Theory, and effective experiential education practices into a self-adjusting fractal-like cycle that we call Co-Constructed Developmental Teaching Theory (CDTT). CDTT is a biologically driven model of teaching. It is a cohesive framework of ideas that have been presented before but not linked in a coherent manner to the biology of the learning process. In addition, it orders the steps in a neurobiologically supported sequence. CDTT opens new avenues of research utilizing evidenced-based teaching practices and provides a basis for a new conversation. However, thorough testing remains.

Schiller, S. Z., Goodrich, K., & Gupta, P. B. (2013). Let Them Play! Active Learning in a Virtual World. *Information Systems Management, 30*(1), 50-62. doi: 10.1080/10580530.2013.739891

In this research, the authors introduce Second Life in undergraduate marketing courses to evaluate its impact on learning. Following the principles of active learning, they conducted two studies ("observing-reflection" and "observing-doing-reflection") in which a total of 201 marketing students participated. Findings show that students who feel Second Life is more game-like and easy to use report greater effectiveness of learning. When "doing" is incorporated in learning activity, enjoyment and learning outcomes improve significantly.

Schmidmaier, R., Eiber, S., Ebersbach, R., Schiller, M., Hege, I., Holzer, M., & Fischer, M. R. (2013). Learning the facts in medical school is not enough: which factors predict successful application of procedural knowledge in a laboratory setting? *Bmc Medical Education, 13*. doi: 10.1186/1472-6920-13-28 *

Background: Medical knowledge encompasses both conceptual (facts or "what" information) and procedural knowledge ("how" and "why" information). Conceptual knowledge is known to be an essential prerequisite for clinical problem solving. Primarily, medical students learn from textbooks and often struggle with the process of applying their conceptual knowledge to clinical problems. Recent studies address the question of how to foster the acquisition of procedural knowledge and its application in medical education. However, little is known about the factors which predict performance in procedural knowledge tasks. Which additional factors of the learner predict

performance in procedural knowledge? Methods: Domain specific conceptual knowledge (facts) in clinical nephrology was provided to 80 medical students (3rd to 5th year) using electronic flashcards in a laboratory setting. Learner characteristics were obtained by questionnaires. Procedural knowledge in clinical nephrology was assessed by key feature problems (KFP) and problem solving tasks (PST) reflecting strategic and conditional knowledge, respectively. Results: Results in procedural knowledge tests (KFP and PST) correlated significantly with each other. In univariate analysis, performance in procedural knowledge (sum of KFP+PST) was significantly correlated with the results in (1) the conceptual knowledge test (CKT), (2) the intended future career as hospital based doctor, (3) the duration of clinical clerkships, and (4) the results in the written German National Medical Examination Part I on preclinical subjects (NME-I). After multiple regression analysis only clinical clerkship experience and NME-I performance remained independent influencing factors. Conclusions: Performance in procedural knowledge tests seems independent from the degree of domain specific conceptual knowledge above a certain level. Procedural knowledge may be fostered by clinical experience. More attention should be paid to the interplay of individual clinical clerkship experiences and structured teaching of procedural knowledge and its assessment in medical education curricula.

Seifried, J., & Hopfer, E. (2013). The Perception of Error in Production Plants of a Chemical Organisation. *Vocations and Learning, 6*(2), 159-185. doi: 10.1007/s12186-012-9081-1
There is considerable current interest in error-friendly corporate culture, one particular research question being how and under what conditions errors are learnt from in the workplace. This paper starts from the assumption that errors are inevitable and considers key factors which affect learning from errors in high responsibility organisations, focusing specifically on production plants in a chemical company. An attempt is made to conceptualize potential links between individual, collective and organisational levels of analysis on the one hand, and factors relevant to an error management culture on the other hand. This is followed by an empirical validation of the factors proposed by means of interviews with ten safety representatives and executives from production plants in a chemical company. A problem-centred interview technique was chosen focussing questions on a realistic near-miss event. The content analysis identified two relevant factors for constructive error handling in chemical production plants: a) the perception of an error as a learning opportunity, and b) psychological safety within work groups. On the basis of these findings, strategies are discussed for fostering an error management culture which allows learning from errors and provides suggestions for the handling of errors.

Shinnick, M. A., & Woo, M. A. (2013). The effect of human patient simulation on critical thinking and its predictors in prelicensure nursing students. *Nurse Education Today, 33*(9), 1062-1067. doi: 10.1016/j.nedt.2012.04.004
Human patient simulation (HPS) is becoming a popular teaching method in nursing education globally and is believed to enhance both knowledge and critical thinking. Objective: While there is evidence that HPS improves knowledge, there is no objective nursing data to support HPS impact on critical thinking. Therefore, we studied knowledge

and critical thinking before and after HPS in prelicensure nursing students and attempted to identify the predictors of higher critical thinking scores. Methods: Using a one-group, quasi-experimental, pre-test post-test design, 154 prelicensure nursing students (age 25.7 +/- 6.7; gender = 87.7% female) from 3 schools were studied at the same point in their curriculum using a high-fidelity simulation. Pre- and post-HPS assessments of knowledge, critical thinking, and ;self-efficacy were done as well as assessments for demographics and learning style. Results: There was a mean improvement in knowledge scores of 6.5 points (P<0.001), showing evidence of learning. However, there was no statistically significant change in the critical thinking scores. A logistic regression with 10 covariates revealed three variables to be predictors of higher critical thinking scores: greater "age" (P=0.01), baseline "knowledge" (P=0.04) and a low self-efficacy score ("not at all confident") in "baseline self-efficacy in managing a patient's fluid levels" (P=.05). Conclusion: This study reveals that gains in knowledge with HPS do not equate to changes in critical thinking. It does expose the variables of older age, higher baseline knowledge and low self-efficacy in "managing a patient's fluid levels" as being predictive of higher critical thinking ability. Further study is warranted to determine the effect of repeated or sequential simulations (dosing) and timing after the HPS experience on critical thinking gains.

Shirahada, K., & Hamazaki, K. (2013). Trial and error mindset of R&D personnel and its relationship to organizational creative climate. *Technological Forecasting and Social Change, 80*(6), 1108-1118. doi: 10.1016/j.techfore.2012.09.005

This paper aims to reveal the mindset of corporate R&D personnel's behavior when they break through a difficult problem. In addition, we examine the relationship between that mindset and the organizational creative climate. We defined trial and error behavior as the process of continuous knowledge creation and acquisition until success is achieved, and constructed a model. We distributed a questionnaire survey on invention and discovery activities to 706 corporate R&D personnel who had received awards from leading Japanese science academies. The results of qualitative data analysis revealed six mindsets and approaches: (i) elimination approach, (ii) idea exploration-oriented mindset, (iii) cause exploration-oriented mindset, (iv) repetitive approach, (v) passion for trial and error, and (vi) experience-oriented mindset. In addition, the results showed that the creative climate did not have a significant impact on the exploration-oriented trial and error mindsets of R&D personnel, such as with (ii) and (iii). Technology-oriented firms cannot develop innovative achievements if they are not willing to encourage risk taking. Our findings indicate that managers should try to understand their employees' trial and error mindsets and create an effective organizational climate that goes beyond an organizational creative climate.

Shukr, I., Zainab, R., & Rana, M. H. (2013). Learning Styles of Postgraduate and Undergraduate Medical Students. *Jcpsp-Journal of the College of Physicians and Surgeons Pakistan, 23*(1), 25-30.

Objective: To compare learning styles of undergraduate and postgraduate medical students. Study Design: Observational, comparative study. Place and Duration of Study: Department of Medical Education, Army Medical College, NUST, Rawalpindi, Pakistan, during February and March 2012. Methodology: A total of 170 students were divided

into two equal groups of undergraduate students of Army Medical College, and postgraduate students of Armed Forces Post Graduate Medical Institute, Rawalpindi. Learning Style Questionnaire (LSQ) was used to assess and categorize the participants into Honey and Mumford classification of learning styles. The responses of each student ranging from 'very strong,' 'strong', 'moderate', and 'low' preference towards activist, theorist, reflector and pragmatist learning styles were compiled. The two groups were compared using SPSS version 17, using Fisher's exact test and the chi-square test. A p-value of < 0.05 was considered significant. Results: Preferences for all four learning styles were present in both groups. The results reveal an overall statistically significant difference in the 'very strong' preference in learning styles between the two study groups (p=0.002). Among the undergraduate students, 45% had a very strong preference for being an activist, whereas in postgraduate students, 38% had very strong preference for reflector, and 35% for theorist. This was statistically significant for activist, and reflector, and attained a p-value of < 0.001, for activist, and of 0.018 for reflector. The most uncommon 'very strong', and 'strong preference' for learning style was pragmatist in both undergraduate and postgraduate students. Conclusion: Diversity of learning styles at undergraduate and postgraduate level of medical education calls for multiplicity of instructional and assessment modalities to match them. The learning styles amongst the undergraduate medical students are different from the postgraduates. The postgraduates commonly have the reflector learning style while the undergraduates are predominantly activists and theorists.

Siddique, Z., Ling, C., Roberson, P., Xu, Y. J., & Geng, X. J. (2013). Facilitating Higher-Order Learning Through Computer Games. *Journal of Mechanical Design, 135*(12). doi: 10.1115/1.4025291

Engineering education needs to focus on equipping students with foundational math, science, and engineering skills, with development of critical and higher-order thinking so they can address novel and complex problems and challenges. Learning through a medium that combines course materials with game characteristics can be a powerful tool for engineering education. Games need to be designed for higher order engagement with students, which go beyond remembering, understanding and applying of engineering concepts. In this paper, we present design, development, implementation, and evaluation of a game for engineers. The developed game is founded on experiential learning theory and uses enhanced game characteristics. The racecar game has been designed to facilitate higher-order learning of geometric tolerancing concepts. The course module has been developed and implemented, with assessment of outcomes. The results show that students using the game module, when compared with the control group (lecture-based instruction), had significant improvements when addressing questions that involved higher-order cognition. Survey results also indicate positive student attitudes towards the learning experience with game modules.

Siglet, E., Cheng, A., Donnon, t. & Grant, V. (2014). A simulation-based intervention teaching seizure management to caregivers: A randomized controlled pilot study. *Paediatrics & Child Health* 19(7):373-8 · August 2014 DOI: 10.1093/pch/19.7.373

Objectives: To examine the effect of simulation-based seizure management teaching on improving caregiver competence and reported confidence with managing seizures. The

authors hypothesized that simulation-based education would lead to a higher level of demonstrated competence and reported confidence in family members and caregivers. Simulation has not been previously studied in this context. Methods: A two-group pre- and post-test experimental research design involving a total of 61 caregivers was used. The intervention was a simulation-based seizure curriculum delivered as a supplement to traditional seizure discharge teaching. Caregiver performance was analyzed using a seizure management checklist. Caregivers' perception of self-efficacy was captured using a self-efficacy questionnaire. Results: Caregivers in the experimental group achieved significantly higher post intervention performance scores than caregivers in the control group in both premedication and post medication seizure management (P<0.01). Additionally, they achieved significantly higher scores on the self-efficacy questionnaire including items reflecting confidence managing the seizure at home (P<0.05). Conclusion: Caregivers receiving the supplemental simulation-based curriculum achieved significantly higher levels of competence and reported confidence, supporting a positive relationship between simulation-based seizure discharge education, and caregiver competence and confidence in managing seizures. Simulation sessions provided insight into caregiver knowledge but, more importantly, insight into the caregiver's ability to apply knowledge under stressful conditions, allowing tailoring of curriculum to meet individual needs. These findings may have applications and relevance for management of other acute or chronic medical conditions.

Skeath, P., Norris, S., Katheria, V., White, J., Baker, K., Handel, D., . . . Berger, A. (2013). The Nature of Life-Transforming Changes Among Cancer Survivors. *Qualitative Health Research, 23*(9), 1155-1167. doi: 10.1177/1049732313499074

Some cancer survivors report positive subjective changes they describe as life transforming. We used a grounded theory approach to identify the content, underlying process, and identifying characteristics of self-defined life-transforming changes (LTCs) reported by 9 cancer survivors. To actualize their hopes for improvement, participants used a self-guided process centered on pragmatic action: researching options, gaining experience, and frankly evaluating results. Many participants discovered unanticipated personal abilities and resources, and those became highly useful in coping with other challenges apart from cancer. This made the increased personal abilities and resources life transforming rather than being substantially limited to reducing cancer-related problems. The action-oriented features and processes of LTCs seemed to be more fully described by experiential learning theory than by posttraumatic growth and coping. Supportive intervention to facilitate positive change processes could decrease suffering and enhance positive psychosocial and spiritual outcomes for cancer survivors.

Somers, M. J., Passerini, K., Parhankangas, A. & Casal, J. (2014). Using mind maps to study how business school students and faculty organize and apply general business knowledge. *The International Journal of Management Education.* 12:1-13 *

Concerns have been raised that business school pedagogy has limited students' intellectual development with respect to integrative thinking, synthetic reasoning and the ability analyze complex problems. Mind maps were used in this study to explore these concerns. Specifically, undergraduate and MBA students, and business school faculty performed a mind mapping exercise for a complex, multifaceted problem. Results supported concerns about students' intellectual development. Mind maps indicated that advanced undergraduate and advanced MBA students partitioned knowledge into distinct silos and that their knowledge bases were thin. In contrast, business school faculty developed rich mind maps characterized by dense connections among concepts. Implications of these findings for business school pedagogy were discussed.

Sparrow, J., & Whitmer, S. (2014). Transforming the student experience through learning space design. *The Future of Learning and Teaching in Next Generation Learning Spaces (International Perspectives on Higher Education Research, Volume 12) Emerald Group Publishing Limited*, *12*, 299-315.

ABSTRACT This chapter focuses on the challenges and the possibilities that exist for College and University leadership, academic planners, instructional technologists, campus planners, architects, and others involved in building the transformative student experience **...**

Spencer, J. E., Cooper, H. C., & Milton, B. (2013). The lived experiences of young people (13-16 years) with Type 1 diabetes mellitus and their parents - a qualitative phenomenological study. *Diabetic Medicine, 30*(1), E17-E24. doi: 10.1111/dme.12021

Aims Within a programme of research aiming to develop a technology-based educational intervention for young people with Type1 diabetes, this study aimed to explore adolescents and parents experiences of living with Type1 diabetes from an interpretive phenomenological perspective. Methods In-depth interviews were conducted with 20 adolescents with Type1 diabetes from a diabetes clinic in North West England, and 27 of their parents. Results Living with Type1 diabetes in adolescence was characterized by three distinct stages: (1) adapting to the diagnosis; (2) learning to live with Type1 diabetes; (3) becoming independent. Experiential learning was key to adolescents developing self-management skills and independence. Parents and health professionals were instrumental in facilitating environments that gave adolescents the freedom to learn through trial and error. They also provided the support, feedback and discussion necessary to facilitate such learning. Conclusions For adolescents to become independent in Type1 diabetes self-management, they must develop capability through experiential learning. It is important that parents and health professionals understand the important role they play in this process and have the skills to support adolescents in this way. Data from this study have been used to develop an online interactive Adolescent Diabetes Needs Assessment Tool, which assesses individual learning and support needs to aid the process of feedback and discussion.

Sperling, J. D., Clark, S., & Kang, Y. (2013). Teaching medical students a clinical approach to altered mental status: simulation enhances traditional curriculum. *Medical Education Online, 18*. doi: 10.3402/meo.v18i0.19775

Introduction: Simulation-based medical education (SBME) is increasingly being utilized for teaching clinical skills in undergraduate medical education. Studies have evaluated

the impact of adding SBME to third- and fourth-year curriculum; however, very little research has assessed its efficacy for teaching clinical skills in pre-clerkship coursework. To measure the impact of a simulation exercise during a pre-clinical curriculum, a simulation session was added to a pre-clerkship course at our medical school where the clinical approach to altered mental status (AMS) is traditionally taught using a lecture and an interactive case-based session in a small group format. The objective was to measure simulation's impact on students' knowledge acquisition, comfort, and perceived competence with regards to the AMS patient. Methods: AMS simulation exercises were added to the lecture and small group case sessions in June 2010 and 2011. Simulation sessions consisted of two clinical cases using a high-fidelity full-body simulator followed by a faculty debriefing after each case. Student participation in a simulation session was voluntary. Students who did and did not participate in a simulation session completed a post-test to assess knowledge and a survey to understand comfort and perceived competence in their approach to AMS. Results: A total of 154 students completed the post-test and survey and 65 (42%) attended a simulation session. Post-test scores were higher in students who attended a simulation session compared to those who did not (p<0.001). Students who participated in a simulation session were more comfortable in their overall approach to treating AMS patients (p = 0.05). They were also more likely to state that they could articulate a differential diagnosis (p = 0.03), know what initial diagnostic tests are needed (p = 0.01), and understand what interventions are useful in the first few minutes (p = 0.003). Students who participated in a simulation session were more likely to find the overall AMS curriculum useful (p<0.001). Conclusion: Students who participated in a simulation exercise performed better on a knowledge-based test and reported increased comfort and perceived competence in their clinical approach to AMS. SBME shows significant promise for teaching clinical skills to medical students during pre-clinical curriculum.

Stan, M., & Vermeulen, F. (2013). Selection at the Gate: Difficult Cases, Spillovers, and Organizational Learning. *Organization Science, 24*(3), 796-812. doi: 10.1287/orsc.1120.0763

We analyze longitudinal data on British fertility clinics to examine the impact of "selection at the gate," i.e., the attempts of organizations to improve the success rate of their output by selecting promising cases as input. In contrast to what might be expected, we argue that more stringent input selection is likely to lead to lower overt performance compared with those firms that admit difficult cases, because the latter develop steeper learning curves. That is, difficult cases enable greater learning from prior experience because they promote experimentation, communication among various actors, and the codification of new knowledge. Our results confirm this prediction and provide clear evidence that organizations with more difficult cases in their portfolios gradually begin to display performance figures that compare favorably with those of firms that do select at the gate.

Starr, F., Ciclitira, K., Marzano, L., Brunswick, N., & Costa, A. (2013). Comfort and challenge: A thematic analysis of female clinicians' experiences of supervision. *Psychology and Psychotherapy-Theory Research and Practice, 86*(3), 334-351. doi: 10.1111/j.2044-8341.2012.02063.x

Objective. The supervision of counsellors, counselling psychologists, and

psychotherapists is generally perceived to be an invaluable component of training and practice. The present study analysed this process to explore the meanings of supervision and to consider implications for clinical practice and training. Design. This study presents the accounts of 19 psychological therapists who experienced supervision while working at a London-based women's therapy centre. Method. Demographic information was collected by questionnaire, and semi-structured interviews were conducted to explore aspects of the supervisory experience. The qualitative data were thematically analysed. Results. Supervision has complex and paradoxical meanings, and it impacts on clinical counselling practice in multifarious ways. Dominant themes highlighted were the usefulness of supervision, specifically support, empowerment, and joining; fear of exposure in supervision versus gaining new information; the comfort versus the challenge of supervision; and supervision as a containing space. Conclusions. An experiential model of supervision was developed from the data. This model complements existing models in the field. It could be evaluated and used alongside existing models in various training and supervision contexts. Findings are discussed in relation to the literature on clinical supervision.

Stead, V., & Elliott, C. (2013). Women's leadership learning: A reflexive review of representations and leadership teaching. *Management Learning, 44*(4), 373-394. doi: 10.1177/1350507612449504

This article contributes to understandings of the experiential nature of leadership learning by drawing attention to the role of disruption as an organizing influence on women's leadership learning, and by generating insights for leadership teaching. Examining leadership learning as an experiential process, we present the development of a typology intended to act as a summary of literature focusing on women's experiences of leadership learning. Informed by our experiences of developing and using the typology as a teaching aid in two leadership development interventions we progress through a cycle of critical reflections to present a reflexive analysis of the typology's performative effect and how it brings into being representations of women's leadership. Moving from initial observations to deeper reflections the analysis draws attention to how disrupting pervades women's learning of leadership, thus extending our understanding of gender's influence on organizing learning experiences. The article considers how we, as educators, might forefront disrupting as a process in leadership learning interventions by re-positioning instruments, such as the typology, to problematize and deconstruct leadership learning. We conclude by proposing a reflexive process in the classroom that takes the form of a critical dialogue to enable educators and participants to de-construct their experience.

Stelter, Reinhard (2014). *A guide to third generation coaching: Narrative-collaborat ive practice* NY: Springer Dordrecht Heidelberg*

Stiles, D. J. (2013). Applying Experiential Learning to Audiology Curricula. *Journal of the American Academy of Audiology, 24*(5), 365-371. doi: 10.3766/jaaa.24.5.4

In my quest to become a better professor, I have been searching for the instructional paradigms that best facilitate the educational process between me and my students. To support this endeavor, I opted to study learning diversity. The results of my investigation led me to reflect upon whether my teaching strategies inadvertently engaged only a subset of my students. I believe that was the case. In this article, I will describe the

experiential learning model, how I used it to measure my students learning styles, and how I used the model to make my teaching more holistic.

Stock, K. (2014). Deep experiencing: The mediating effect of immersion on learning from equine assisted training. Quantitative Research Report. Doctor of Management Program, Weatherhead School of Management, CWRU*

As managers become overwhelmed by technology and the amount of information that is thrown at them, they are required to do more multi-tasking. However, this can have a negative effect on productivity, creativity, and decision making. Facilitated training that involves becoming immersed in an experience, such as that which is done with equine-assisted education, allows for time to reflect and engage in deep experiencing. An on-line survey to 71 past participants of an equine-assisted training experience was conducted to understand the ability of the participants to become immersed in the experience in order to maximize learning. Our findings indicate immersion significantly mediates the relationships between learner centered facilitation which includes being part of the natural environment and application of learning, specifically in regards to critical reflection and creativity. This discovery extends experiential learning theory and the impact of immersion during the first stage of the learning cycle and provides insight into deeper learning that may be transferrable to other contexts.

Stock, K. L. (2014).EQUINE-ASSISTED EXPERIENTIAL LEARNING: IMPLICATIONS FOR MANAGEMENT DEVELOPMENT AND EDUCATION. Doctor of Management thesis. Weatherhead School of Management, CWRU. *

We explore the use of equine-assisted experiential learning and the effect that participating in such experiences can have on individuals as a means to developing leadership skills and improving managerial effectiveness. In the first part we interview twenty-eight past participants of a day-long equine-assisted training experience from a single location to identify the learning outcomes of such an experience. We discovered that participants engage in a process self-discovery as a result of this facilitated learning experience that enables learning by engaging metaphorically with the horse that enables one to relate to work experiences through the use of a trained facilitator.   In the second part we use a global sample of past participants to determine the impact of immersion during equine-assisted experiential learning on applications of learning identified in the qualitative study. Our results indicate that participants in this type of training do engage in deep experiencing, such that being immersed in the experience results in greater creativity and critical reflection. The importance of this research extends Experiential Learning Theory by providing insight into the learning space and the role of learner centered facilitation that impacts the effectiveness of management training.

Stocker, M,, Bumester, M. & Allen, M. (2014) Optimisation of simulated team training through the application of learning theories: a debate for a conceptual framework. *BMC Medical Education (*Impact Factor: 1.41). 04/2014; 14(1):69. DOI: 10.1186/1472-6920-14-69 Source: PubMed *

ABSTRACT As a conceptual review, this paper will debate relevant learning theories to inform the development, design and delivery of an effective educational programme for simulated team training relevant to health professionals.
Kolb's experiential learning theory is used as the main conceptual framework to define

the sequence of activities. Dewey's theory of reflective thought and action, Jarvis modification of Kolb's learning cycle and Schon's reflection-on-action serve as a model to design scenarios for optimal concrete experience and debriefing for challenging participants' beliefs and habits. Bandura's theory of self-efficacy and newer socio-cultural learning models outline that for efficient team training, it is mandatory to introduce the social-cultural context of a team.

The ideal simulated team training programme needs a scenario for concrete experience, followed by a debriefing with a critical reflexive observation and abstract conceptualisation phase, and ending with a second scenario for active experimentation. Let them re-experiment to optimise the effect of a simulated training session. Challenge them to the edge: The scenario needs to challenge participants to generate failures and feelings of inadequacy to drive and motivate team members to critical reflect and learn. Not experience itself but the inadequacy and contradictions of habitual experience serve as basis for reflection. Facilitate critical reflection: Facilitators and group members must guide and motivate individual participants through the debriefing session, inciting and empowering learners to challenge their own beliefs and habits. To do this, learners need to feel psychological safe. Let the group talk and critical explore. Motivate with reality and context: Training with multidisciplinary team members, with different levels of expertise, acting in their usual environment (in-situ simulation) on physiological variables is mandatory to introduce cultural context and social conditions to the learning experience. Embedding in situ team training sessions into a teaching programme to enable repeated training and to assess regularly team performance is mandatory for a cultural change of sustained improvement of team performance and patient safety.

Stokes, P., Hickman, M., Wisser, M., Scott, P., Moore, N., Russell, N., & Rowland, C. (2013). *TOOLS AND MODELS IN OUTDOOR MANAGEMENT DEVELOPMENT APPROACHES: A REAPPRAISAL OF THE LITERATURE FROM THE FIELD.*

The paper investigates the models and tools commonly engaged in outdoor management development (OMD) in the United Kingdom. The paper employs an interpretive methodology engaging participant observation and narrative techniques. A number of OMD providers were studied and this generated a rich body of data which is relayed and examined in the text. In spite of extensive theoretical contemporary debates and developments in wider human resource development domains, the study identifies that many practitioners working in experiential course settings continue to engage a predominantly positivistic, well-rehearsed, over-used, and indeed ageing, collection of models. The paper identifies linear and modernistic assumptions on which such models are predicated. OMD is a relatively longstanding form of training which continues to be used by a large number of individuals. The phenomenon therefore merits attention so as to better determine the social implications of the approach. The paper offers an original and innovative consideration of the tools generally employed in OMD programmes.

Stock, K. (2013). Straight from the horse's mouth: An experiential learning approach to management development though metaphor. Qualitative Research Report. Doctor of Management Program, Weatherhead School of Management CWRU*

The importance of having capable leaders is extremely relevant today, but the effectiveness of training is difficult to measure. While much has been written on the use

of horses for therapeutic purposes, this qualitative research study sought to address the gap of knowledge on the value of using horses as a training tool for management development. The research illustrates the derived benefits from experiential learning through metaphor in the context of working with horses that directly relates to individual's behavior at work. Through this facilitated experience, participants engaged in a process of self-discovery that led to deeper learning. The results of this research contribute to experiential learning theory in this context, and to practice in terms of effective knowledge transfer that contributes to management development

Stone, M. J., & Petrick, J. F. (2013). The Educational Benefits of Travel Experiences: A Literature Review. *Journal of Travel Research, 52*(6), 731-744. doi: 10.1177/0047287513500588

> Empirical evidence about the educational outcomes of travel is scattered across many fields of study. This paper reviews the literature on the educational benefits of travel, beginning with the literature on study abroad. Learning outcomes have been found from the travel portion of the study experience, and some research has found that out-of-class experiences were the most impactful portion of study abroad. Personal growth, increase in life skills, and knowledge also result from independent international travel, as well as objectiveless travel. A few studies have focused on adults and seniors, but the research primarily has focused on young adults and college students. After a review of the literature, numerous suggestions for future study are provided, including a focus on the educational outcomes of domestic travel, youth travel, and determining which travel experiences result in the most learning benefits.

St Onge, J., Hodges, T., McBride, M., & Parnell, R. (2013). An Innovative Tool for Experiential Learning of Nursing Quality and Safety Competencies. *Nurse Educator, 38*(2), 71-75. doi: 10.1097/NNE.0b013e3182829c7d

> There is a growing call to include quality and safety content into nursing curricula that are already overburdened with content. Yet evidence suggests that many nursing schools have not yet done so. The authors describe 1 innovative, experiential approach to teaching quality and safety in the clinical environment. This approach, called "hip-pocket training," was developed and implemented by clinical nursing faculty who found it convenient and effective in introducing core competencies related to quality and safety.

Sun, G., Shen, J., Luo, J. Z., & Yong, J. M. (2013). *Evaluations of Heuristic Algorithms for Teamwork-Enhanced Task Allocation in Mobile Cloud-Based Learning*.

> Enhancing teamwork performance is a significant issue in mobile cloud-based learning. We introduce a service oriented system, Teamwork as a Service (TaaS), to realize a new approach for enhancing teamwork performance in the mobile cloud environment. To coordinate most learners' talents and give them more motivation, an appropriate task allocation is necessary. Utilizing the Kolb's learning style (KLS) to refine learner's capabilities, and combining their preferences and tasks' difficulties, we formally describe this problem as a constraint optimization model. Two heuristic algorithms, namely genetic algorithm (GA) and simulated annealing (SA), are employed to tackle the teamwork-enhanced task allocation, and their performances are compared respectively. Having faster running speed, the SA is recommended to be adopted in the real

implementation of TaaS and future development.

Sun, G. & Shen, J. (2014). Towards organizing smart collaboration and enhancing teamwork performance: a GA-supported system oriented to mobile learning through cloud-based online course. *International Journal of Machine Learning and Cybernetics* 7(3) · January 2014 DOI: 10.1007/s13042-014-0269-6

> At present, people's learning styles become diverse, for which mobile learning is a significant trend that enables distributed learners to achieve collaborative learning and allows them to be engaged in virtual teams to work together. In this research, we develop a system to cope with the problem in current mobile learning circumstance, where learners in virtual teams generally lack proper communications, guidance and assistances between each other. Following the theory of Kolb team learning experience, we use our system, Teamwork as a Service (TaaS), to work in conjunction with cloud-based learning management systems. This system targets at organizing a series of learning activities and then forming a learning flow in order to allow learners to participate into smart collaborations. Executing the five web services of TaaS sequentially, learners can have their collaborative learning arranged in a better environment, where they are able to know about one another, be grouped into cloud-based 'Jigsaw Classroom', plan and publish tasks and supervise other learners mutually. In particular, one primary point of enhancing learners' teamwork performance is to offer them computational choice of task allocation. For this reason, we model the social features related to the collaborative learning activities, and introduce a genetic algorithm (GA) approach to group learners into appropriate teams with two different team formation scenarios. The technical details of the operation principle of GA are illustrated thoroughly. Finally, experimental results are presented to prove our approach is workable to facilitate teamwork with considerations of learner's capabilities and preferences. We also demonstrate our implementation details of the newly designed TaaS over the Amazon cloud and discuss the main improvements for collaborative learning brought by TaaS.

Sutherland, I. (2013). Arts-based methods in leadership development: Affording aesthetic workspaces, reflexivity and memories with momentum. *Management Learning, 44*(1), 25-43. doi: 10.1177/1350507612465063

> There is a growing cry for ways of approaching management and leadership development that embrace the complex, dynamic, chaotic and highly subjective, interactional environments of contemporary organisational contexts. One response has been the use of arts-based methods for management and leadership education. Although a community of research has grown around these practices, there remains a lack of empirically grounded work focusing on the underlying, situated, experiential learning processes of such methods. Working from the concept of experiential learning as knowledge creation through the transformation of experience, I develop a three-stage theoretical model that explores experiential learning processes of arts-based methodologies. This study is based on an inductive, grounded theory approach in analyzing descriptive essays written by Executive MBA students on their experiences of a choral conducting masterclass. The model describes how arts-based learning environments afford aesthetic workspaces where participants engaged in aesthetic reflexivity to create memories with momentum to inform their future leadership practice. This model builds an interdisciplinary bridge to

the theory of affordances and the concepts of aesthetic workspaces and aesthetic reflexivity found within cultural sociology, a discourse with a focus on the reflexive use of the arts for self-configuration, regulation and development.

Sutherland, I. (2013). Creating engaged executive learning spaces: The role of aesthetic agency. *Organizational Aesthetics (2(1):105-124 **

Swart, J., & Harcup, J. (2013). 'If I learn do we learn?': The link between executive coaching and organizational learning. *Management Learning, 44*(4), 337-354. doi: 10.1177/1350507612447916
> This article contributes to the organizational learning literature by providing empirical evidence of how coaching enables the translation from individual learning into collective learning, i.e. enacting behaviours, enacting a coaching approach and embedding collective learning processes. It draws on interview data gathered in two law firms wherein learning was the result of executive coaching interventions to pinpoint the mechanisms by which individual and collective learning is interconnected, thereby heeding a call for a more detailed understanding of the mechanisms of learning presented in Management Learning (Bapuji and Crossan, 2004). This enables us to understand the role that coaching plays in the translation from individual to collective learning.

Svec, V. (2013). *PILOT RUN OF THE EXPERIENTIAL EXERCISE: ARE STUDENTS ABLE TO FIND AND ELIMINATE TEAM LOAFERS?*
> The aim of this contribution is to present the teaching tool, which enhances students' abilities to work in team. The new experiential exercise based on role-playing and gaming was designed specifically for the purposes of teaching in the management course taught at the Faculty of Economics and Management of the University of Life Sciences in Prague. The article describes learning tool, which consists of playing cards, game process, pilot runs and possible educational effects. The most important outcome of the game is the principle 'Act As A', to which influence are students exposed during the play. I used methods of analogy, observation, analysis, synthesis, modelling, abstraction, and interviewing.

Sweitzer, H. F. & King, M. A. (2014). *The successful internship: Personal, professional, and civic development in experiential learning* 4th edition Belmont, CA: Brooks/Cole Cengage Learning*

T

Tannenbaum, S. I., & Cerasoli, C. P. (2013). Do Team and Individual Debriefs Enhance Performance? A Meta-Analysis. *Human Factors, 55*(1), 231-245. doi: 10.1177/0018720812448394 $
> Objective: Debriefs (or "after-action reviews") are increasingly used in training and work environments as a means of learning from experience. We sought to unify a fragmented literature and assess the efficacy of debriefs with a quantitative review. Background: Used by the U. S. Army to improve performance for decades, and increasingly in medical, aviation, and other communities, debriefs systematize reflection, discussion, and goal setting to promote experiential learning. Unfortunately, research and theory on

debriefing has been spread across diverse disciplines, so it has been difficult to definitively ascertain debriefing effectiveness and how to enhance its effectiveness. Method: We conducted an extensive quantitative meta-analysis across a diverse body of published and unpublished research on team-and individual-level debriefs. Results: Findings from 46 samples (N = 2,136) indicate that on average, debriefs improve effectiveness over a control group by approximately 25% (d = .67). Average effect sizes were similar for teams and individuals, across simulated and real settings, for within- or between-group control designs, and for medical and nonmedical samples. Meta-analytic methods revealed a bolstering effect of alignment and the potential impact of facilitation and structure. Conclusion: Organizations can improve individual and team performance by approximately 20% to 25% by using properly conducted debriefs. Application: Debriefs are a relatively inexpensive and quick intervention for enhancing performance. Our results lend support for continued and expanded use of debriefing in training and in situ. To gain maximum results, it is important to ensure alignment between participants, focus and intent, and level of measurement.

Taras, V., Bryla, P., Caprar, D. V., Ordenana, X., Rottig, D., Bode, A., . . . Huang, V. Z. Y. (2013). A Global Classroom? Evaluating the Effectiveness of Global Virtual Collaboration as a Teaching Tool in Management Education. *Academy of Management Learning & Education, 12*(3), 100-121. doi: 10.5465/amle.2012.0195
We evaluate the effectiveness of global virtual student collaboration projects in international management education. Over 6,000 students from nearly 80 universities in 43 countries worked in global virtual teams for 2 months as part of their international management courses. Multisource longitudinal data were collected, including student and instructor feedback, course evaluations, assessment of changes in knowledge, attitudes, and behaviors following the experiential project, and various indicators of individual and team performance. Drawing on experiential learning, social learning, and intergroup contact theories, the effectiveness of the experiential global virtual team-based approach in international management education was evaluated at the levels of reactions, learning, attitudes, behaviors, and performance. The findings show positive outcomes at each level, but also reveal challenges and limitations of using global virtual team projects for learning and education. Implications for international management education and suggestions for future research are discussed.

Taylor, D. C. M., & Hamdy, H. (2013). Adult learning theories: Implications for learning and teaching in medical education: AMEE Guide No. 83. *Medical Teacher, 35*(11), E1561-E1572. doi: 10.3109/0142159x.2013.828153 $
There are many theories that explain how adults learn and each has its own merits. This Guide explains and explores the more commonly used ones and how they can be used to enhance student and faculty learning. The Guide presents a model that combines many of the theories into a flow diagram which can be followed by anyone planning learning. The schema can be used at curriculum planning level, or at the level of individual learning. At each stage of the model, the Guide identifies the responsibilities of both learner and educator. The role of the institution is to ensure that the time and resources are available to allow effective learning to happen. The Guide is designed for those new to education, in the hope that it can unravel the difficulties in understanding and applying the common

learning theories, whilst also creating opportunities for debate as to the best way they should be used.

ten Cate, O. T. J. (2013). Why receiving feedback collides with self determination. *Advances in Health Sciences Education, 18*(4), 845-849. doi: 10.1007/s10459-012-9401-0
Providing feedback to trainees in clinical settings is considered important for development and acquisition of skill. Despite recommendations how to provide feedback that have appeared in the literature, research shows that its effectiveness is often disappointing. To understand why receiving feedback is more difficult than it appears, this paper views the feedback process through the lens of Self-Determination Theory (SDT). SDT claims that the development and maintenance of intrinsic motivation, associated with effective learning, requires feelings of competence, autonomy and relatedness. These three psychological needs are not likely to be satisfied in most feedback procedures. It explains why feedback is often less effective than one would expect. Suggestions to convey feedback in ways that may preserve the trainee's autonomy are provided.

Thomas, T. & Gentzler, K. (2013) The Imperative of Education. *Journal of Leadership Studies* 12/2013; 6(4). DOI: 10.1002/jls.21268 *
ABSTRACT Teaching midgrade leaders at the Command and General Staff Officers Course (CGSOC) located in Ft. Leavenworth, Kansas, comes with many unique challenges. At CGSOC, students arrive having led soldiers in combat and having served in leadership positions in the United States Army for at least 10 years. When they walk into the classroom and see an instructor with a dress shirt and tie—not in a uniform—their immediate thought is, "What can this civilian teach me? I have fought in foreign lands and had to watch people die and lead soldiers through intensely difficult circumstances." Through most of their careers, their approach to learning in Professional Military Education (PME) has been through training. CGSOC is the first time they experience learning from mostly an educational pedagogy as opposed to training. We focus on teaching how to think instead of what to think. At CGSOC we use an Experiential Learning Model (ELM), based on Kolb's Experiential Learning Theory. The ELM takes Kolb's experiential learning cycle and superimposes five steps on the preferred learning styles described by Kolb. We promote student-to-student dialogue, drawing out the experience resident in the classroom, and add leadership theory to reinforce the learning.

Tiwari, S.R., Nafees, L., Krishnan, O. (2014). Simulation as a pedagogical tool: Measurement of impact on perceived effective learning. *The International Journal of Management Education* volume 12, issue 3, year 2014, pp. 260 – 270*

This paper studied the impact of simulation as a pedagogical tool on perceived effective learning. The three factors considered had differential impact on perceived effective learning measured in the form of integrated learning and decision making. Data were collected from a sample of students completing their first year of study at a b-school in India. It was found that team dynamics emerged as the most important dimension followed by instructor's role and learning process. The activities in simulation exercises which enhance team cohesiveness and effective role playing are detrimental for the perception of positive effective learning.

Tong, J. J., Yao, X., Lu, Z. X., & Wang, L. (2013). Impact pattern of dialectical thinking on perceived leadership training outcomes. *Journal of Applied Social Psychology, 43*(6), 1248-1258. doi: 10.1111/jasp.12087

This research examined the impact of dialectical thinking (DT) on perceived training outcomes in commercial leadership training using a quasi-experimental design. Study 1 found that high-DT individuals had better perceived on-site training outcomes when compared with individuals with low DTs, regardless of training methods. But there was no significant difference between low and high DTs on subsequent behavioral improvements. It was also found that self-reported training outcomes were consistent with others' observation. To further validate the on-site effect of DT, we introduced a cognitive style manipulation prior to training to increase DT levels among trainees in Study 2. Individuals following the cognitive style manipulation reported significantly better perceived training outcomes. The implications of this research for field training are discussed.

Trinh M. P. & Kolb, D. A. (2014). Experiential learning styles across cultures. In Bennett, J. M. (Ed.) *Encyclopedia of Intercultural Competence.* San Francisco: Sage*

Trott, D. C. (2013). Teaching spirituality and work: A praxis-based pedagogy. *Management Learning, 44*(5), 470-492. doi: 10.1177/1350507612456501

The purpose of this article is to present a praxis-based pedagogy in the classroom teaching of spirituality and work to working adult students. The article provides an overview of classroom scholarship that illuminates activities for transformational learning and emphasizes the importance of four key dialogues: self-dialogue, dialogue with co-workers, dialogue with classmates, and dialogue with the teacher. Such dialogues provide a pathway through the challenges of teaching/learning about spirituality and work by making available an open space for meaning-making and critique around spiritual experiences of work. The author's metalogue throughout provides a parallel dialectical structure relating to the core content; a faithful demonstration to walk the talk of praxis.

Tu, C. L., & Li, L. J. (2013). *Empirical Study on English Learning Styles of College Students*.

In the previous empirical study of the learners' English learning styles, the learning styles are divided into one or the other two extreme states, ignoring the balanced learning styles between the two extreme. This paper takes the balanced learning styles into research and surveys the general distribution characteristics of different English learning styles among college students and its correlation between gender and academic performances by using the Index of Learning Styles (ILS) developed by Felder. Statistics show that college

students with reflective, sensing, visual and global learning styles take lager proportions, and students with active, intuitive, verbal and sequential learning styles are fewer; the English learning styles are related to gender; reflective learning style and students' academic records are negatively related, and the other seven kinds of styles have no apparent relations to the scores. Also some suggestions are provided on teachers' teaching and students' learning methods according to the results.

Tuomi, I. (2013). Open Educational Resources and the Transformation of Education. *European Journal of Education, 48*(1), 58-78. doi: 10.1111/ejed.12019

The extremely rapid expansion of open educational resource (OER) initiatives and the millions of learners they attract can be understood as an indicator of an emerging revolution in education and learning. This article describes recent developments in this area and develops conceptual foundations for studies and policies on OER. We describe four different types of OER, locate these in a field of learning theories, and discuss how the wide adoption of OER may constrain and accelerate the transformation of learning and education in the knowledge society.

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Van Assche, K., Beunen, R., Holm, J., & Lo, M. (2013). Social learning and innovation. Ice fishing communities on Lake Mille Lacs. *Land Use Policy, 34*, 233-242. doi: 10.1016/j.landusepol.2013.03.009

Social learning took place largely outside the sphere of government and spurred substantial technological and institutional innovation. Unique patterns of networks, informal institutions and social learning environments delineate options for social learning that are more likely to succeed, to lead to implementation. The history of social learning on lake Mille Lacs showed that new formal institutions are not necessarily the best sites for social learning, and that forms of innovation and modes of learning cannot be separated. Interdependence and shared goals, and flexibility in role distribution appear as success factors. The diversity of learning sites in a community should not be understood as a problem, as an obstacle to central steering and education by government: it enables the community to adapt and survive. (C) 2013 Elsevier Ltd. All rights reserved.

van Dam, K. (2013). On the move: on employees' individual adaptability in dynamic work situations. *Gedrag & Organisatie, 26*(3), 311-328.

Today's organisations are facing dynamic and changing environments that emphasize the importance of enhanced organisational flexibility and adaptation as well as increased employee adaptability. Although the concept of employee adaptability is often used, it is seldom defined. This paper first discusses different research fields focusing on employee responses to dynamic situations without explicitly addressing individual adaptability, such as planned and continuous organizational change and work stress. Next, the concept of adaptability is discussed and, in the end, defined. Moreover, a multi-dimensional model for individual adaptability at work is presented containing three components:

cognitive, affective and behavioural adaptability. Finally, several psychological resources are presented that contribute to employees' individual adaptability.

van der Meij, H., Leemkuil, H., & Li, J. L. (2013). Does individual or collaborative self-debriefing better enhance learning from games? *Computers in Human Behavior, 29*(6), 2471-2479. doi: 10.1016/j.chb.2013.06.001

> The primary aim of this study is to find out whether use of different self-debriefing modes affects learning from a game. In self-debriefing participants are led to reflect upon their game experiences by a set of debriefing questions. Two conditions were compared: Individual and Collaborative self-debriefing. The 45 participants first played the game of Lemonade Tycoon Deluxe, were tested for knowledge and self-debriefed in pairs or alone. Then they played the game once more and were tested again. Game scores increased significantly from the first to the second round of gameplay to an equal degree in both conditions. Knowledge scores of participants in individual self-debriefing increased significantly more than those of participants in the Collaborative condition. The study shows that game-based learning can be effectively scaffolded with self-debriefing. Future studies might investigate whether the type of self-debriefing differentially affects game motivation. In addition, attention to the role of feedback is called for.

Van Dijk, T. (2014). *Present or play: A real life experiement to explore whether people's shown behavior after playing a serious game …differs from people's shown behavior after attending a presentation* MBA Thesis Universiteit Twente *

Many people claim that serious gaming has more influence on the behavior of the trainees than a normal presentation, but very little evidence is available in literature. Therefore in this report the following research question will be answered: *"Does people's shown behaviour after playing a serious game, highlighting the need for a specific set of behaviours, differ from people's shown behaviour after attending a presentation with the same content, and why"*.

To answer this research question, an experiment was conducted within a consulting company (Accenture). The experiment took place during the 'new hire days'; an introduction program for all new employees, taking place during the first two days of these new employees at the company. During these 'new hire days' people are expected to understand the Core Values of Accenture; statements describing how employees of Accenture are supposed to act. These Core Values are related to: collaboration, the validation of client needs, helping behaviour, respectful behaviour, the use of people's potential and integrity. For the purpose of this experiment these core values were presented using a serious game and a presentation. Consequently, three hours after the learning methods, participants' behaviour was measured in a simulated environment. The outcomes of these measures were used to compare the behaviours of the people that played a serious game, with those that attended the presentation. Both the serious game and presentation included similar learning elements and similar content; only the format of the learning method differed.

Based on the results of this research, several conclusions can be drawn. Firstly, a serious game is more effective than a presentation when it comes to making people show a specific set of behaviours. Secondly, a serious game is more engaging than a presentation. Thirdly, failure is an important learning element of a serious game. Fourthly, also learning elements like goals setting, feedback and challenge are important during a serious game, since these are the learning elements that drive failure. Fifthly, the debriefing is an essential aspect of a serious game. And lastly, a serious game is more fun than a presentation. Furthermore, it is difficult to make generalizations about all serious games and presentations, since the effectiveness of each learning method depends upon the learning elements that are included. However, since a serious game and presentation were compared which both include similar learning elements; this research is a good indication of the extent to which the impact of both learning methods differs.

van Eijnatten, F. M., van der Ark, L. A., & Holloway, S. S. (2014). Ipsative measurement and the analysis of organizational values: an alternative approach for data analysis. *Quality & Quantity*, 1-21.

> In this paper, the analysis and test of ipsative data will be discussed, and some alternative methods will be suggested. Following a review of the literature about ipsative measurement, the Competing Values Framework will be presented as a major application in the field of organizational culture and values. An alternative approach for the intra-individual analysis and test of ipsative data will be suggested, which consists of: (i) a method that uses closed part-wise geometric means as a descriptive statistic; (ii) a nonparametric bootstrap test to create confidence intervals; and (iii) a permutation test to evaluate equivalence between ipsative scores. All suggested methods satisfy the three basic statistical requirements for the analysis of ipsative data, that is: scale invariance, permutation invariance, and sub compositional coherence. Our suggested approach can correctly compute and compare organizational culture profiles within the same organization, as will be demonstrated with an example. However, the problem of drawing inter-organizational contrasts in ipsative measurement still remains unsolved. Also, our alternative approach only allows for a relative interpretation of the results.

Vanhear, J. (2013). The use of concept mapping and vee heuristics in higher education to promote critical reflection and meaningful learning. *Journal for Educators, Teachers and Trainers* 01/2013; 4(4):180-194.

ABSTRACT Higher Education is currently undergoing relentless change worldwide in order to respond effectively to the aspirations of the 21st century. Consequently, prevalent literature in Higher Education calls for more emphasis on the students' learning process through increased metacognition and critical reflection. This paper starts off with the assumption that learning takes place through the integration of thinking, feeling and acting. As a result, this paper will present a model of teaching and learning in Higher Education through the integrated use of Vee Heuristics and Concept Mapping. This research will suggest that when using Concept Maps, Vee Heuristics along with an awareness of how students prefer to learn, the students will go through a metacognitive learning process which would eventually lead to critical reflection and meaningful learning. Using University students' work products, this study traces the effect of a learner's mental operations on the learner's use of Vee Heuristics and Concept Mapping as the learner embeds and retrieves new and scaffolded knowledge. The data collected reveals the powerful effect which this combination of learning tools yielded on student achievement and transformation.

Van Waes, L., Van Weijen, D. &Leijten, M. (2014) Learning to write in an online writing center: The effect of learning styles on the writing process. *Computers & Education* 04/2014; 73:60-71.

ABSTRACT: One of the main advantages of online learning materials is that they can be adapted for students with different learning styles. This article presents a study and a methodology to investigate whether students with different learning styles make use of the potential flexibility of online learning materials, i.c. in the context of an online writing center. The study aims to investigate the effect of learning styles on (a) the students' approach to the writing task (process), and (b) on the letters they write (product). Twenty students each completed a module on writing 'bad news' letters designed for Business Communication courses. Their reading and writing processes were recorded. The letters were also graded to determine their quality. An effect of learning style was found: Active and Reflective writers approached the task differently, but only in the beginning of the process. In this early stage Reflective learners were more likely to focus on the theory section than Active learners. This suggests that writers with different learning styles tackle the learning materials in different ways, often in line with the preferences that characterize their learning styles. However, no effect of learning style on text quality was found.

Voss, G. (2013). Gaming, Texting, Learning? Teaching Engineering Ethics Through Students' Lived Experiences With Technology. *Science and Engineering Ethics, 19*(3), 1375-1393. doi: 10.1007/s11948-012-9368-5

This paper examines how young peoples' lived experiences with personal technologies can be used to teach engineering ethics in a way which facilitates greater engagement with the subject. Engineering ethics can be challenging to teach: as a form of practical

ethics, it is framed around future workplace experience in a professional setting which students are assumed to have no prior experience of. Yet the current generations of engineering students, who have been described as 'digital natives', do however have immersive personal experience with digital technologies; and experiential learning theory describes how students learn ethics more successfully when they can draw on personal experience which give context and meaning to abstract theories. This paper reviews current teaching practices in engineering ethics; and examines young people's engagement with technologies including cell phones, social networking sites, digital music and computer games to identify social and ethical elements of these practices which have relevance for the engineering ethics curricula. From this analysis three case studies are developed to illustrate how facets of the use of these technologies can be drawn on to teach topics including group work and communication; risk and safety; and engineering as social experimentation. Means for bridging personal experience and professional ethics when teaching these cases are discussed. The paper contributes to research and curriculum development in engineering ethics education, and to wider education research about methods of teaching 'the net generation'.

W

Walder, A. M. (2014). The relationship between discipline and innovation: A factor in professorial involvement in integrating pedagogical innovation. *Science*, *2*(4), 108-122.

Abstract: The existence of disciplinary culture within universities is rooted in academic tradition. The differences between the disciplines as regards the way in which they perceive and apply Scholarship of Teaching and Learning and the fact that the discipline is a conducive factor to pedagogical innovation invite to explore pedagogical innovation from the disciplinary culture perspective and to question the effect of disciplinary culture on the types of pedagogical innovation professors use. The data for this qualitative research was collected from semi-structured interviews with thirty-two professors, recipients of the Université de Montréal excellence in teaching award. I used the grounded theory analysis method which has allowed me to uncover similarities and differences between the disciplinary cultures and analyse their impact. The Hard-Pure sciences focus on pedagogical innovation related to the tools, the concept of teaching and the support schemes. The Soft-Pure sciences prefer pedagogical innovation related to tools, support schemes and professionalisation. The Hard-Applied sciences use pedagogical innovation related to tools, pedagogical approaches and professionalisation. The Soft-Applied sciences favour pedagogical innovation related to pedagogical approaches, tools, support schemes and professionalisation. Also, the greatest pedagogical innovation diversity occurs within the Soft-Applied sciences. Thus, it is time for kindling reflection on the influence of the pure versus applied science dimension on pedagogical innovation and questioning ourselves whether the discipline's relationship with innovation could be a decisive factor in professors' involvement in integrating pedagogical innovation into teaching? This study finds its significance in probing the influence of disciplinary culture on pedagogical innovation and contributing new knowledge in this field.

Wang, C. L. & Chugh, H. (2013). ENTREPRENEURIAL LEARNING: PAST RESEARCH AND FUTURE CHALLENGES *International Journal of Management Reviews* (Impact Factor: 3.58). 02/2013; DOI: 10.1111/ijmr.12007

ABSTRACT Entrepreneurial learning has emerged as a promising area of research at the interface between learning and the entrepreneurial context (Harrison & Leitch, 2005). Central to entrepreneurial learning research are issues pertinent to not only what entrepreneurs should, or do learn during the creation and management of entrepreneurial ventures, but more importantly, the specific processes of learning that occur in this context (Cope, 2005). The literature is incongruous on many aspects of entrepreneurial learning and the role of learning in the entrepreneurial process has not been well

understood (Deakins, 1996; Minniti & Bygrave, 2001; Cope, 2005; Harrison & Leitch, 2005). In this study, we aim to synthesize existing research in this area, define and articulate what entrepreneurial learning is in the organizational context, and accordingly direct future research efforts to build our understanding in this area.

Wankat, P. C. (2013). Progress in Reforming Chemical Engineering Education. In J. M. Prausnitz (Ed.), *Annual Review of Chemical and Biomolecular Engineering, Vol 4* (Vol. 4, pp. 23-43).

Three successful historical reforms of chemical engineering education were the triumph of chemical engineering over industrial chemistry, the engineering science revolution, and Engineering Criteria 2000. Current attempts to change teaching methods have relied heavily on dissemination of the results of engineering-education research that show superior student learning with active learning methods. Although slow dissemination of education research results is probably a contributing cause to the slowness of reform, two other causes are likely much more significant. First, teaching is the primary interest of only approximately one-half of engineering faculty. Second, the vast majority of engineering faculty have no training in teaching, but trained professors are on average better teachers. Significant progress in reform will occur if organizations with leverage-National Science Foundation, through CAREER grants, and the Engineering Accreditation Commission of ABET-use that leverage to require faculty to be trained in pedagogy.

Westergaard, J. (2013). Group work: Pleasure or pain? An effective guidance activity or a poor substitute for one-to-one interactions with young people? *International Journal for Educational and Vocational Guidance, 13*(3), 173-186. doi: 10.1007/s10775-013-9249-8

This paper defines the concept of personal learning and development (PLD) group work as a guidance activity in both career counselling and youth support practice. It introduces the FAAST model-a framework for planning, preparing and delivering PLD group sessions (Westergaard in Effective group work with young people. Open University, Maidenhead, 2009). The paper goes on to present a research project exploring PLD group work. Key findings are shared at the initial stages of the study related to the efficacy of PLD group work and the use of the FAAST model in the planning, preparation and delivery of group sessions.

Williams, B., Brown, T. & Etherington, J. (2013). Learning style preferences of undergraduate pharmacy students. *Currents in Pharmacy Teaching and Learning* 04/2013; 5(2):110–119. DOI: 10.1016/j.cptl.2012.09.003

ABSTRACT Objectives It has been identified that health science students and in particular undergraduate pharmacy students have distinctive learning needs. When university educators are aware of the unique learning styles of undergraduate pharmacy students, they will have the capacity to adjust their teaching approaches to best fit with their students' learning preferences. The purpose of this study was to investigate the learning style preferences of a group of undergraduate pharmacy students enrolled at one Australian university. **Methods** The Kolb Learning Style Inventory, the Index of

Learning Styles and the Success Types Learning Style Type Indicator were distributed to 900 students enrolled in an undergraduate pharmacy degree at one metropolitan Australian university. **Results** A total of 240 questionnaires were returned, providing a response rate of 26.7%. The results indicated the Assimilator, Active-Reflective and Introverted, Intuitive, Feeling, Judging (INFJ)/Extroverted, Intuitive, Feeling, Judging (ENFJ) learning styles to be most frequently preferred by pharmacy students. **Conclusions** It is recommended that educators take into consideration the learning style preferences of undergraduate pharmacy students when developing curricula and evaluating teaching approaches, especially when planning, implementing and evaluating education initiatives in order to create an effective, contemporary learning environment for their students.

Wood, E. D., & St Peters, H. Y. (2014). Short-term cross-cultural study tours: impact on cultural intelligence. *International Journal of Human Resource Management, 25*(4), 558-570. doi: 10.1080/09585192.2013.796315

> This paper examines whether short-term cross-cultural study tours enhance the four factors of cultural intelligence (CQ): metacognition, cognition, motivation and behavior. CQ has exhibited high correlations between higher levels of CQ and positive attitudinal and behavioral outcomes. As a capability, CQ appears malleable and, thus, open to change and improvement. Data were collected from working professionals in an MBA program both before and after participating in an experientially oriented 11- or 12-day short-term cross-cultural study tour. Results supported three of the four hypotheses, suggesting that short-term cross-cultural study tours exhibited a significant relationship with enhanced metacognitive CQ, cognitive CQ and motivational CQ. The results did not reveal a significant relationship between the study tours and behavioral CQ.

Wright, R. P., Paroutis, S. E., & Blettner, D. P. (2013). How Useful Are the Strategic Tools We Teach in Business Schools? *Journal of Management Studies, 50*(1), 92-125. doi: 10.1111/j.1467-6486.2012.01082.x

> Strategic tools are indispensible for business and competitive analysis. Yet we know very little about managers' internal logic as they put these tools into practical use. We situate our study in a business school context using action learning prior to the manifestation of practice to complement our understanding of practice. Using Personal Construct Theory and Repertory Grids, our mid-range theorizing showed that, contrary to current thinking about strategic tools, managers think in dualities (often paradoxically) and have a preference for multiple-tools-in-use, tools that provide different perspectives, peripheral vision, connected thinking, simultaneously help differentiate and integrate complex issues, and guide the thinking process. These findings are important for designing better tools and the nurturing of critical managerial competencies needed for a complicated world. Our study's focus also has wider implications for scholars as we see our own material evaluated by those who will put these lessons into practice.

Wu, P. J., He, H. P., Weng, T. S., & Yang, L. H. (2013). The Experiential Learning and Outdoor Education in Taiwan Elementary School. In G. Lee (Ed.), *Social Science and Health* (Vol. 19, pp. 115-121).

Based on Experiential Learning Theory, the purpose of this study was to investigate the relationship of learning experience, learning attitude and learning satisfaction in outdoor education of elementary school students. The objects of this study were students of two elementary schools within Chiayi City and Chiayi County both visited the Taipei Flower Expo during 2011 in an outdoor educational trip. The questionnaires were sent to 300 students (150 students in each school). After questionnaire survey, there were 229 valid questionnaires the recovery rate was 77.6%. We found that learning experience and learning satisfaction showed significant and moderate positive correlation. Learning attitude and learning satisfaction also showed a significant and moderate positive correlation. The results showed that the learning experience had a significant influence on the learning attitude; learning attitude had a significant influence on learning satisfaction. Therefore, the learning experience affected learning satisfaction through learning attitude. The off-campus teaching and visiting should not just be an entertainment and serve as a group exercise. We suggest teachers apply Experiential Learning Theory, learning by reflection and internalization, to help students to learn meaningful knowledge since it is an effective teaching methods.

X

Xu, Q., Li, T. Z., & Lv, C. F. (2013). *Detecting and Visualizing Emerging Research Fronts and Intellectual Bases in the Field of Higher Education With Citespace II*.
> Research fronts and intellectual bases in the field of higher education were identified with knowledge domain visualization tool- Citespace II. Download from ISI Web of Science, thousands articles published in high quality peer-reviewed journals from 1998 to 2012 were included in this study. The co-keyword analysis identified the hot topic of each time slice, which reflected the evolution of research fronts. The co-citation network analysis detected the intellectual bases of high education, which consisted of four research clusters. Some challenges and opportunities for future studies were discussed in the last section.

Y

Yamazaki, Y., & Attrapreyangkul, T. (2014). A Comprehensive Approach to Understand Learning Styles across Countries: A Comparison between the Japanese and Thai Employees of Japanese MNCs. *The Palgrave Handbook of Experiential Learning in International Business*, 91.
> In the age of globalization, there is no doubt that the process by which people working in international contexts learn is a critical issue in the area of international management. Among learning theories, the experiential learning theory proposed by Kolb (1984) has **...**

Yang, S. Y. (2014). Wisdom and Learning from Important and Meaningful Life Experiences. *Journal of Adult Development*, *21*(3), 129-146. *
> According to the wisdom literature, learning from important and meaningful life experiences can foster wisdom. Leading others is one such experience. This paper explores empirically whether and how learning acquired from leadership experience can

foster wisdom, which is defined as a real-life process encompassing three core components: cognitive integration, embodiment in actions, and positive effects for oneself and others. This paper consists of two studies. Study 1 investigated the learning acquired from leadership experience and its relationship with wisdom. Eight leaders in higher education in Taiwan participated in five interviews spanning 2 years which explored the lessons learned from their leadership experience. Analysis of the interviews found that leaders acquired rich and multidimensional learning from their leadership experience and that components of wisdom were involved in their learning and their application of the lessons learned. Study 2 examined whether the results of Study 1 could be generalized to a wider population of higher education leaders. An inventory of learning and wisdom compiled from Study 1 was administered to 94 Taiwanese higher education leaders twice within 8 months. Multivariate statistical analysis showed that leaders' responses to items of both acquired learning and components of wisdom increased in 8 months and that these increases were strongly correlated. Results suggest that learning from important and meaningful life experiences can foster wisdom.

Young, A., Klossner, J., Docherty, C. L., Dodge, T. M., & Mensch, J. M. (2013). Clinical Integration and How It Affects Student Retention in Undergraduate Athletic Training Programs. *Journal of Athletic Training, 48*(1), 68-78. doi: 10.4085/1062-6050-48.1.22

Context: A better understanding of why students leave an undergraduate athletic training education program (ATEP), as well as why they persist, is critical in determining the future membership of our profession. Objective: To better understand how clinical experiences affect student retention in undergraduate ATEPs. Design: Survey-based research using a quantitative and qualitative mixed-methods approach. Setting: Three-year undergraduate ATEPs across District 4 of the National Athletic Trainers' Association. Patients or Other Participants: Seventy-one persistent students and 23 students who left the ATEP prematurely. Data Collection and Analysis: Data were collected using a modified version of the Athletic Training Education Program Student Retention Questionnaire. Multivariate analysis of variance was performed on the quantitative data, followed by a univariate analysis of variance on any significant findings. The qualitative data were analyzed through inductive content analysis. Results: A difference was identified between the persister and dropout groups (Pillai trace = 0.42, $F\text{-}1, F\text{-}92 = 12.95$, $P = .01$). The follow-up analysis of variance revealed that the persister and dropout groups differed on the anticipatory factors ($F\text{-}1, F\text{-}92 = 4.29$, $P = .04$), clinical integration ($F\text{-}1, F\text{-}92 = 6.99$, $P = .01$), and motivation ($F\text{-}1, F\text{-}92 = 43.12$, $P = .01$) scales. Several themes emerged in the qualitative data, including networks of support, authentic experiential learning, role identity, time commitment, and major or career change. Conclusions: A perceived difference exists in how athletic training students are integrated into their clinical experiences between those students who leave an ATEP and those who stay. Educators may improve retention by emphasizing authentic experiential learning opportunities rather than hours worked, by allowing students to take on more responsibility, and by facilitating networks of support within clinical education experiences.

Yorks, L., & Nicolaides, A. (2013). Toward an Integral Approach for Evolving Mindsets for Generative Learning and Timely Action in the Midst of Ambiguity. *Teachers College Record, 115*(8). $

Background/Context: The implications of complexity theory have become a recurring topic in the literatures of a wide range of scholarly and professional fields including adult education. This paper builds on literature calling attention to the educational need for pedagogically addressing the implications of the intensifying complexity in the environments that confront adults in their professional and personal lives. Purpose/Objective/Research Question/Focus of Study: Three theoretical streams, (a) Complex adaptive systems; (b) learning through experience; and, (c) adult developmental theory provide the basis for the pedagogical approach that is presented. The focus is on contingently applying these distinct streams of theory into learning designs. We share our experiences in experimenting with course designs for preparing adult learners for taking action on personal, civic, and professional challenges embedded in ambiguity and uncertainty in which rigid application of ready-made solutions is not possible. Our goal is to stimulate deeper experimentation. Accordingly, the question guiding this paper is, "How can we as adult educators create conditions in our classrooms, and other learning venues, for addressing the need for preparing adults to mindfully learn through the challenges that confront them in the context of increasing complexity?" Setting: For purposes of illustrating our experience and provoking questions, we draw on examples from our work in three graduate level courses in distinct disciplinary settings-specifically, organizational psychology and adult learning, adult education, and technology management. Research Design: This paper is an analytical essay drawing out the implications for generative learning from an integrative literature review connecting the three theoretical streams identified above that guide our thinking and work. We provide a framework for creating generative learning spaces based on the implications drawn from this integrative literature review, along with examples of application. Conclusions/Recommendations: Our experiences in a range of settings suggests that applying the framework can provide educative structures in which adults may stretch their capacity to make meaning, and learn how make choices for timely action, under conditions of uncertainty and ambiguity generated by the complexity their socio-economic environments. The approach also provokes new challenges for faculty as well as students, challenges that require more systemic research. We conclude with an agenda for future research.

Yin, C. J., Song, Y. J., Tabata, Y., Ogata, H., & Hwang, G. J. (2013). Developing and Implementing a Framework of Participatory Simulation for Mobile Learning Using Scaffolding. *Educational Technology & Society, 16*(2), 137-150. *

This paper proposes a conceptual framework, scaffolding participatory simulation for mobile learning (SPSML), used on mobile devices for helping students learn conceptual knowledge in the classroom. As the pedagogical design, the framework adopts an experiential learning model, which consists of five sequential but cyclic steps: the initial stage, concrete experience, observation and reflection, abstract conceptualization, and testing in new situations. Goal-based and scaffolding approaches to participatory simulations are integrated into the design to enhance students' experiential learning. Using the SPSML framework, students can experience the following: (1) learning in

augmented reality by playing different participatory roles in mobile simulations in the micro-world on a mobile device, and (2) interacting with people in the real world to enhance understanding of conceptual knowledge. An example of the SPSML-based system was implemented and evaluated. The experimental results show that the system was conducive to the students' experiential learning and motivation. Moreover, the students who learned with the proposed approach gained significantly higher accuracy rates in performing the more complicated sorting algorithm.

Yang, T. C., Hwang, G. J., & Yang, S. J. H. (2013). Development of an Adaptive Learning System with Multiple Perspectives based on Students' Learning Styles and Cognitive Styles. *Educational Technology & Society, 16*(4), 185-200.*

> In this study, an adaptive learning system is developed by taking multiple dimensions of personalized features into account. A personalized presentation module is proposed for developing adaptive learning systems based on the field dependent/independent cognitive style model and the eight dimensions of Felder-Silverman's learning style. An experiment has been conducted to evaluate the performance of the proposed approach in a computer science course. Fifty-four participants were randomly assigned to an experimental group which learned with an adaptive learning system developed based on the personalized presentation module, and a control group which learned with the conventional learning system without personalized presentation. The experimental results showed that the experimental group students revealed significantly better learning achievements than the control group students, implying that the proposed approach is able to assist the students in improving their learning performance.

Z

Ziegler, M. F., Paulus, T., & Woodside, M. (2014). Understanding Informal Group Learning in Online Communities Through Discourse Analysis. *Adult Education Quarterly, 64*(1), 60-78. doi: 10.1177/0741713613509682*

> Since informal learning occurs outside of formal learning environments, describing informal learning and how it takes place can be a challenge for researchers. Past studies have typically oriented to informal learning as an individual, reflective process that can best be understood through the learners' retrospective accounts about their experiences. Although reports on the individual lived experience represent the privileged way of understanding social reality (including informal learning), the linguistic/discursive turn of the 1980s proposed a shift in our view of the function of language as creating rather than representing versions of the world. Accordingly, we propose resituating informal learning from a reflective process occurring in an individual mind to the meaning making that occurs in group conversations. We present an exploratory analysis of a single thread from an online hiking community to introduce discourse analysis as a framework to study informal learning as a group meaning-making process.

Zundel, M. (2013). Walking to learn: Rethinking reflection for management learning. *Management Learning, 44*(2), 109-126. doi: 10.1177/1350507612440231*

> This article investigates possibilities for reflection when understood from within a world that is practically experienced rather than theoretically contemplated. Based on an

analysis of space and time in Descartes, it suggests that prominent conceptions of reflection in management learning remain static and lifeless. Drawing on the work of Heidegger it introduces the metaphor of 'walking around' to suggest an alternative understanding of reflection which is sensitive to the worldly immersion and finitude of being and begins to outline implications for management learning.