HEATHER WILSON-ASHWORTH
Professor | Biology

Dr. Heather Wilson-Ashworth is a Professor of Biology. She earned her Bachelor's degree in Math Education with a minor in Biology and a Ph.D. in Human Physiology/Cell Biology at Brigham Young University. Dr. Wilson-Ashworth teaches General Biology, College Biology, Introduction to Anatomy and Physiology and Human Physiology. Her research interests include: the development and assessment of process skills in active learning classrooms, effective mentoring strategies in undergraduate research, and process skills assessment tool development. She has also won multiple awards for teaching excellence.

ANTON TOLMAN
Professor | Psychology

Anton Tolman is Professor of Behavioral Science and Faculty Fellow for the Office of Teaching and Learning at Utah Valley University. His scholarly work focuses on metacognition, student resistance to learning, and issues of power in the classroom. He is senior editor of the recently published book, *Why Students Resist Learning*. Anton received his undergraduate psychology degree from the University of Denver and his doctorate in Clinical Psychology from the University of Oregon. He served his internship in Connecticut at a state psychiatric hospital.

SAM GEDEBORG
Instructional Designer II

Sam Gedeborg is an Instructional Designer for the Office of Teaching and Learning. He earned his Bachelor's degree in Mathematics Education and Master's degree in Educational Technology from Boise State University and is slated to finish his Ph.D. in Curriculum and Instruction through Utah State University in Fall 2019. His research interests include student course completion and retention, curriculum design, learning environments in online and blended modalities, motivation, and game-based learning. As an Instructional Designer he helps faculty improve teaching practices with technological and pedagogical approaches.

SCHOLARSHIP *of* TEACHING & LEARNING

Improving Collaborative Learning Through Team Quizzing

Student success is at the core of UVU's mission. In particular, online science courses suffer from decreased cohesiveness and student participation resulting in decreased student success. Team-Based Learning (TBL) creates an effective collaborative learning environment that enriches student learning and promotes student success. However, implementation of this pedagogy in online courses presents several challenges, including increased resistance to working in teams and difficulty implementing TBL's readiness assurance process (RAP) which involves an individual content quiz prior to discussion followed by a team quiz.

In this session, we present the results from Action Research in an upper division major's psychology course and a general education anatomy and physiology course that modified asynchronous team discussions across the semester promote increased student interactions during the Readiness Assurance Process. Student perceptions of teamwork and their involvement in active learning are addressed.

RAP consists of students completing individual readiness quizzes, discussing their results in order to learn from their misunderstandings and utilizing their new understanding in their completion of a team readiness quiz.

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DEBRA WARD
Asst. Professor | Developmental Math

Debra Ward completed her doctorate in mathematics education at Texas State University in San Marcos, TX. Her current research interests involve understanding student and course characteristics that hinder or support students' successful completion of developmental mathematics sequences.

LINDSEY GERBER
Asst. Professor | Developmental Math

Dr. Lindsey N. Gerber is currently an Assistant Professor in the Developmental Mathematics Department at Utah Valley University. She graduated from Texas State University-San Marcos with a Ph.D. in Mathematics Education. She also has a Bachelor of Science and Master of Science in Mathematics with her certification to teach high school mathematics in Texas. Her research interests include placement of students in mathematics courses, non-traditional teaching instruction, mathematics methods, and elementary and middle school pre-service teachers in developmental mathematics. Dr. Gerber has held teaching positions at both the secondary and post-secondary levels. Through these experiences she has gained extensive experience in curriculum development, creating curriculum and instruction workshops, and non-traditional teaching methods, such as cooperative learning groups and using various instructional models, manipulatives, and technologies in the classroom.

SCHOLARSHIP *of* TEACHING *&* LEARNING

Encouraging Mathematical Literacy in the Developmental Mathematics Classroom

The purpose of this research was to investigate the impact of incorporating content-specific reading strategy instruction on the performance of students enrolled in co-requisite developmental mathematics/quantitative literacy courses (MAT 1035). By incorporating content-specific reading strategy instruction, the aim was to enhance students' ability to engage with mathematical texts.

The study utilized a quasi-experimental control-treatment design. Students in the treatment group participated in activities designed to enhance ability to read mathematically- dense text including math textbooks, news articles, and research reports. Data were collected through a researcher-developed pre/post- Reading Habits Survey and a researcher-developed pre/post- Mathematics Text Reading Comprehension Assessment.

While no significant differences in mathematical literacy were found between the control and treatment groups, anecdotal data suggests that students do not perceive online textbooks to be textbooks at all. Therefore, it is necessary for mathematics instructors to be more proactive and intentional in how they incorporate online-textbooks within classroom activities.

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JANET COLVIN

Associate Dean | College of Humanities and Social Sciences

Janet Colvin has worked in the field of communication for the last twenty years. She is fascinated by the different factors that affect the world of communication and all that influences our ability to communicate in the world around us. Dr. Colvin is the Associate Dean for the College of Humanities and Social Sciences at Utah Valley University focusing primarily on working with faculty. She is also the chair of the Global/Intercultural committee at UVU and a member of the Inclusion Committee. She has devoted a significant amount of research time to studying peer mentor and tutor relationships as well as issues of how communication affects diversity and inclusivity.

Students' Perceptions of Service-Learning: Interactions with Refugees

In today's world, the goal of most higher education institutions is to produce students who are open-minded, tolerant, respectful, engaged in social issues and involved in their community. One of the ways they do that is to provide opportunities for engaged education where students can participate in communities. This is especially true of working with refugees. This study followed students throughout two semesters to identify preconceptions of service learning, perceptions of the course material and refugees, and the impact of their volunteer experience. Findings show that perceptions changed over time and connections between the course and volunteering had the greatest impact.

JARED CHAPMAN
Assistant Professor | Management

Dr. Chapman has 15 years experience facilitating leadership development and employee performance as a coach, trainer, manager, and professor. His career focus has been creating environments where people can be effective and successful. Jared's broad work experience and education (including work as a general manager, production manager, instructional designer, technology specialist, and trainer) allow him to engage multiple perspectives when solving organizational issues. His current research centers on improving student motivation using educational gamification.

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Gamify a Course

Purpose: Use a motivational information system to reduce withdrawals, failures, and dropouts, and improve grades in Chem 1010

Method: Quasi-experimental design, treatment and control group. Same assignments and teacher in both section, one section gets Delphinium treatment.

Results: Results unavailable till the end of the semester, early results are encouraging with 133% more A's on a midterm exam for the treatment group

Conclusion/implications: None yet, but there is potential here to dramatically reduce withdrawals, failures and dropouts.

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JESSI HILL
Associate Professor | Psychology

Dr. Jessica C. Hill earned a Ph.D. in Developmental Psychology from Florida State University and an M.A. in Visual Cognition and Human Performance from the University of Illinois at Urbana-Champagin. Her research on perceptions of women in leadership within Utah prompted the creation of the USHE Women's Leadership Exchange, which she co-directs with Dr. Nancy Hauck and Dr. Liz Hitch. Other research interests include lifespan development of attention and executive control as measured through eye movements; novice instructor preparation and training; and the scholarship of teaching and learning in psychology. She has published in Developmental Psychology (H-index 182) and has been invited to publish internationally in Pratiques Psychologiques. She received the first National Science Foundation Major Research Instrumentation grant at Utah Valley University and has received recognition for her research from UVU's Office of Sponsored Programs, an award for research from the Biennial International Seminar on the Teaching of Psychological Science, and the Dean's Award for Faculty Excellence in Research from the College of Humanities and Social Science.

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Repeated Reflective and Applied Writing with Interteaching as an Intervention in Introductory Psychology Courses

Introductory psychology courses have high failure rates nationally and are implicated in retaining students from the freshman to sophomore years. This study investigated the implementation of several high impact practices (HIPs) to increase passing rates and reduce withdrawal rates. The control condition was an active lecture classroom in which discussion, group activities, and demonstrations occurred on a daily basis. The HIP control condition utilized process-oriented guided-inquiry learning (POGIL) on a weekly basis. The experimental intervention was repeated, reflective and applied writing that was coupled with interteaching, a technique in which students teach each other, then identify areas of understanding that need to be addressed with the whole class and the instructor. A comparison of these engaged pedagogies demonstrates that frequent writing assignments combined with interteaching improve passing rates equal to POGIL and at improved rates compared to an active lecture control.

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ARMEN ILIKCHYAN
Asst. Professor |
Technology Management

Armen Ilikchyan recieved his Ph.D
in Technology Management with
specialization in Quality Systems from
Indiana State University. He received his
Master of Industrial Technologies from
Bowling Green State University and
Post-secondary Degree in Mechanical
Engineering from St. Petersburg State
Institute of Technology.

ELENA LARICHEVA
Asst. Professor | Chemisty,
Computational focus

Elena Laricheva recieved her Ph.D in
Computational Chemistry from Bowling
Green State University. She received
both her Bachelor of Science and
Master of Science in Organic Chemistry
from Saint Petersburg State University.

Integrating Virtual Reality into Traditional STEM Curriculum

Ability to reason with spatial information is important for conceptual subjects like chemistry which relies on strong mental visualization skills.

Virtual reality (VR) may assist chemistry students with weak mental visualization skills by leveraging the proximity effect and can create truly immersive learning experiences.

Our project had three major goals: (1) to assemble two multi-component VR- enhanced molecular visualization systems; (2) to develop VR instructional materials to illustrate traditionally hard to comprehend chemistry concepts; (3) to explore the effectiveness of the VR-enhanced instruction on student performance in CHEM 1210.

Overall, we can conclude that VR lessons could be an effective instructional approach for any student regardless of their mental visualization skills.

Reducing Student Resistance Using Change Theory

The Transtheoretical Model of Change (TTM) is a change theory describing how human beings acquire and maintain new behaviors. Used in many fields, the TTM appears to have utility in higher education, especially with regard to evaluating student resistance and promoting student metacognition of their own learning. Although data has been collected for years on student stages, to date no studies have determined if it is possible to change a student's readiness stage across a semester. Grounded in the TTM theory's underlying processes of change, this study collected data from classrooms in different disciplines to test whether use of a "customized assignment", linked to the student's readiness to change stage, might result in reduced resistance and a greater shift towards becoming more effective learners. The study is ongoing, so the full test of the hypothesis cannot be reported yet, but data collected comparing courses in marketing, nursing, and behavioral science will be presented.

ANTON TOLMAN
Professor | Psychology

Anton Tolman is Professor of Behavioral Science and Faculty Fellow for the Office of Teaching and Learning at Utah Valley University. His scholarly work focuses on metacognition, student resistance to learning, and issues of power in the classroom. He is senior editor of the recently published book, *Why Students Resist Learning*. Anton received his undergraduate psychology degree from the University of Denver and his doctorate in Clinical Psychology from the University of Oregon. He served his internship in Connecticut at a state psychiatric hospital.

NATHAN YERKE
Student Researcher

Nate received his BFA from the University of Utah and is currently doing post bachelor work at Utah Valley University working in Dr. Anton Tolman's lab studying TTM (Transtheoretical Model of Change) and its application to education.

TERENCE FRAZIER
Student Researcher

Terence is a Psychology student in his senior year at Utah Valley University. He was a previously a Computer Science Major, but through life and work experience he realized that wasn't his path. He fell in love with the idea of helping people, and has never been afraid to have deep conversations. He considered becoming an M.D. but mental health hits too close to home for him to consider otherwise. He aspires to pursue Post-Graduate studies in either Neuroscience or Clinical Psychology.