

2018 PE Conference Hall of Innovation Posters/Entries

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Erie, Pennsylvania



City of Erie - History

- Established to build the United States' Lake Erie Fleet in the War of 1812
- One of only 2 natural bays on the South shore of Lake Erie
- Closest point between the Great Lakes and Mississippi watershed - 20 km (12 mi)
- Became a center for shipping and manufacturing
- Today's industries: Healthcare, Tourism, Education, and Manufacturing
- Today's city population: 98,000

Erie, Pennsylvania

- Located in NW Pennsylvania bordered by New York and Ohio
- Albino, New York is 142 km (88 mi)
- Cleveland, Ohio is 160 km (100 mi)
- Pittsburgh, Pennsylvania is 200 km (125 mi)
- Philadelphia, Pennsylvania is 650 km (405 mi)
- Commonwealth purchased the land that is Erie County from New York in order to have access to Lake Erie
- Erie County was established in 1800
- Area 4,600 km² (1,775 mi²)
- Current County Population 290,000
- Appalachian mountains
- Cross PA from SW to NE

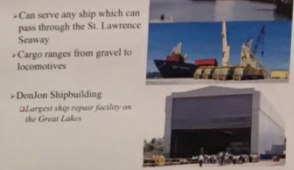


Erie Region

- Home of the U.S. Brig Niagara
- 11 beaches in Presque Isle State Park
- 5 craft breweries, located in the Eastern in the country
- 4 universities and the largest medical school in the U.S.
- Airport, rail service, and 2 intersecting interstate highways
- Headquarters of a Fortune 500 company - Erie Insurance
- largest industrial plant - GE Transportation (Locomotives)



Port of Erie



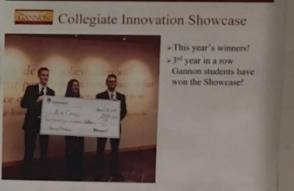
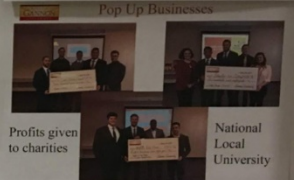
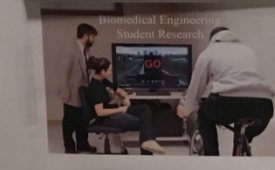
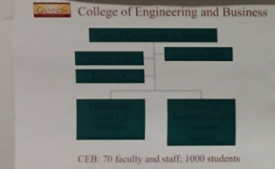
- Can serve any ship which can pass through the St. Lawrence Seaway
- Cargo ranges from gravel to locomotives
- Dowdon Shipbuilding
- largest ship repair facility on the Great Lakes



Gannon History

- Founder: Archbishop John Mark Gannon
- Purpose: Make a college education accessible to the young working class men of Erie
- Founded in 1925 as Cathedral College
- Renamed Gannon College in 1944
- Merged with Villa Maria School of Nursing and became Gannon University in 1979

• Located downtown near the Catholic cathedral
 • For a long time the college ran out of a single building
 • Today there are over 4,000 students



- Gannon and CEB**
- Catholic Intellectual Tradition
«Bringing together Faith and reason»
 - Innovation
«New ideas and business»
 - Service to the Community
«High School outreach»
«Alumni»
 - Workforce
«International Programs»

PE Academy Recovery Course Research Project

How to engage in the project:

- 1) Becoming a campus CO PI
- 2) Join a research area
- 3) Become a Recovery Course Facilitator

Becoming a Campus CO PI

- Each College Campus engaged in the project will have a Campus CO PI who will be responsible for the following:
 - Participate in the Recovery Course as Research Associate learning with the internal research team to learn to conduct
 - Collect Recovery Course data and coordinate to collect the research data for the research project and the research team
 - Coordinate with the research team to ensure the research project can run smoothly
 - Coordinate with the research team to ensure the research project can run smoothly
 - Coordinate with the research team to ensure the research project can run smoothly

Join a Research Area

- Project Director - David Leavitt
- Associate Project Director - Dan Apple
- Research Area 1: Predictive Analytics
- Research Area 2: Impact of Risk Factors
- Research Area 3: Measurement of UPP
- Research Area 4: Longitudinal Success
- Research Area 5: Facilitating Learning to Learn
- Research Area 6: Learning to Learn Theory Applied to Practice
- Research Area 7: Growth Culture and how to Build it
- Research Area 8: Disciplined based Recovery Courses

Predictive Analytics

- Experience of a range of campus CO PIs impact on predicted GPA
- Comparing performance in the Recovery Course and predicted GPA
- Using predictive analytics to identify areas of why there are gaps in performance in recovery courses for the recovery course

Impact of Risk Factors

- Which risk factors are most important and which
- Which risk factors contribute most to lack of success
- Connect risk factors to predicted GPA
- Use key characteristics to help identify which risk factors

Measurement of UPP

- Using the analysis of a specific College's impact on UPP
- Build the regression model to determine which characteristics impact GPA the most
- Conduct a UPP analysis to identify which characteristics

Longitudinal Success

- GPA analysis of the recovery course, which the measure pre and post for of 10 characteristics
- High the change over time GPA is used to measure success
- Disruption in the study and the impact of the study

Facilitating Learning to Learn

- Culture promoted by the Institute
- Collaborative Interventions
- Teaching and Learning Tools
- Combined elements and nature of students
- Research and practice needed for meeting quality standards

Learning to Learn Theory Applied to Practice

- Advance the Performance Model in a College
- Faculty of Learning to Learn
- Measurement of 30 Steps to Success - which are the steps needed for meeting quality standards

Growth Culture and

- How to Build it
- Which research on the importance of Education for the individual research in growth culture
- Which research on the impact of the research on the research
- Which research on the impact of the research on the research

Specialized Recovery Courses

- Learning to learn in other
- International Modeling
- International Modeling
- American Institute of Research
- Growth Culture
- Growth Culture
- Growth Culture

Become a Recovery Course Facilitator

- Research Project will provide opportunity for the growth and development of Learning to Learn Facilitators
- Research Development Opportunities
- Teaching Institute: Professional experience to Practice Facilitators
- Learning to Learn Institute
- Online 18 week 30 hour Faculty Teaching Learning to Learn Institute
- Developmental Steps
- Member of a Recovery Course or Learning to Learn Camp
- Co-facilitator of a Learning to Learn Center or Recovery Course
- Local Institute with a Coordinator

Sign Up - Name and Interest

Name	Interest
DAVID LEAVITT	Project Director
DAN APPLE	Associate Project Director
...	...

CHM 103 Introductory Chemistry Online Boot Camp - 2 year study



George W. Dombi

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ABSTRACT

A pre-semester Boot Camp of 9 mini-lessons was made available to all students in CHM 103 Introductory Chemistry in Sakai two weeks before the start of the Fall semester. This was done to provide a longer and less steep ramp into the rigors of chemistry. Talent Development scholars and general students did equally well in the 9-day Boot Camp. There was no effect on Exam 1 or Final Grades for either student group when taking or not taking the Boot Camp. 9-day Boot Camp had reduced Exam 1 scores, but higher final scores compared to 5-day Boot Camp.

INTRODUCTION

CHM 103 Introductory Chemistry serves about 1000 students each academic year. Students are mostly freshman and come from a number of different majors with a wide array of academic skills. A pre-semester Boot Camp consisting of 9 mini-lessons was setup on Sakai and opened to all students in the hope that this would help start the semester on a more even footing.

MATERIALS and METHODS

The Boot Camp was setup online, in Sakai, 10 days prior to the Fall 2016 semester with 5 mini-lessons and with 9 mini-lessons in Fall 2017. Each lesson contained a 200-300 word written paragraph, plus a video and a pool of 7 questions, which could be taken up to 10 times. Both Boot Camps were concluded with a capstone practice exam that was statistically evaluated as a predictor of the score on modern Exam 1 and the Final Exam.

A statistical comparison between the Talent Development Scholars and the rest of the class will be made using T-Test analysis, with a critical $p < 0.05$ set for significance.

Figure 1. Screenshot of Sakai LMS showing course details for CHM 103. The course was set up for Fall 2016, with 9 pre-semester lessons, followed by a practice exam. About 1000 students took some or all of the boot camp, which is about 95% participation.

RESULTS Fall 2016

There were 403 students in Fall 2016 class; nearly 91% participated in some or all of the Boot Camp. The camp was worth 21 points.

	Boot Camp Score (21pts)	Exam 1 Score (100pts)	Final Exam Score (200pts)
Talent Development (40 (35 BC / 5 no) (n = 35))	15.5 ± 3.9	69.6 ± 12.0 (n = 40)	135.4 ± 16.2 (n = 34)
General Students (363 (332 BC / 31 no) (n = 332))	16.8 ± 3.7	78.4 ± 10.6 (n = 360)	149.2 ± 23.7 (n = 348)

No Sig diff $p < 0.001$

There was no difference in the Boot Camp scores in the Talent Development Scholars or in the General Students. There was a statistical difference between the two groups on Exam 1, TDNG was 11% lower, and on the Final Exam, TDNG was 9.2% lower.

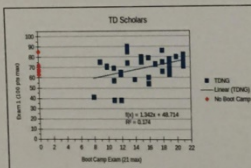


Figure 2. There were 49 Talent Development students who took Exam 1. Of those 37 took all or part of the Boot Camp, which is 95% participation. These TDNG students had an average score of 69.6% on Exam 1. The remaining 12 TDNG students did not take any part of the Boot Camp and had an average score of 78.4% on Exam 1. The two scores were not significantly different.

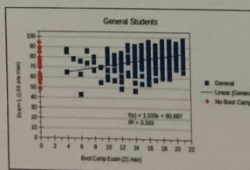


Figure 3. There were 361 General students who took Exam 1. Of those 332 took all or part of the Boot Camp, which is 92% participation. These General students had an average score of 78.4% on Exam 1. The remaining 29 general students did not take any part of the Boot Camp and had an average score of 78.4% on Exam 1. The two scores were not significantly different.

RESULTS Fall 2017

There were 307 students in Fall 2017 class; nearly 96% participated in some or all of the Boot Camp. The camp was worth 25 points.

	Boot Camp Score (25pts)	Exam 1 Score (100pts)	Final Exam Score (200pts)
Talent Development (26 (24 BC / 2 no) (n = 24))	17.9 ± 8.2	60.9 ± 15.6 (n = 26)	132.1 ± 35.8 (n = 25)
General Students (281 (270 BC / 11 no) (n = 281))	19.4 ± 6.5	73.9 ± 13.9 (n = 281)	146.2 ± 28.3 (n = 276)

No Sig diff $p < 0.001$

There was no difference in the Boot Camp scores in the Talent Development Scholars or in the General Students. There was a statistical difference between the two groups on Exam 1, TD was 18% lower, and on the Final Exam, TD was 9.7% lower.

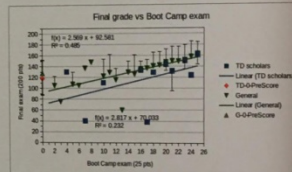


Figure 4. 9-day Boot Camp vs Final exams. There were 26 Talent Development scholars who took Exam 1. Of those 24 took all or part of the Boot Camp, which is 92% participation. TD scholars had an average score of 60.9% on Exam 1, which is an average score of 73.1% on the Final Exam. General students scored 73.1% on the Final Exam which was a significant improvement from 5-day Boot Camp Final exam scores, 76.1%.

CONCLUSIONS

There was little if any effect of the Boot Camp on helping the TD scholars either in Exam 1 average grade or Final exam average grade when compared to the general student population. Even though both groups of students did equally well in scores during the boot camp, the general students scored higher in Exam 1 and the Final Exam.

Students who score high in the Boot Camp, tended to score high on the final. General students scored higher on the final exam after the 9-day Boot Camp compared to the 5-day Boot Camp.

International Journal of Process Education
www.processeducation.org/ijpe/

This is a peer-reviewed international journal published by the Academy of Process Educators. It also serves as an archival media source for a community of practice encompassing scholars and educators dedicated to transforming higher education.

Journal Scope

Topics include (but not limited to) the following processes and tools used by Process Educators:

<ul style="list-style-type: none"> facilitation mentoring assessment critical thinking problem solving student success 	<ul style="list-style-type: none"> cooperative learning guided-discovery learning learning environments curriculum/course design using performance measures college readiness
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Submission of Manuscripts

- Title
- Authors' Names and Affiliations
- Abstract (100-150 words)
- Introduction
- Main body, divided in appropriate sections
- Figures and Tables, must be in black/white
- Conclusions
- List of References, in APA format
- May include acknowledgments, appendices, glossary of words and symbols

Guiding Principles

- All faculty, staff, and administrators can contribute to classroom research.
- Every researcher's questions, methods, and analysis can be continuously improved.
- The term "classroom" is a metaphor for all learning environments.
- Mentorship can accelerate development of research skills.
- There is a role for both quantitative and qualitative educational research.
- Collaboration among authors, reviewers, and editors is critical for a vibrant research environment.
- An educational journal can be improved by regularly assessing all aspects of its operation.

2018 - 19 Publication Timeline

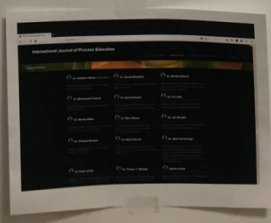
- Sept 3, 2018 → last date for article submission
- Oct 15, 2018 → reviews back to authors
- Dec 3, 2018 → deadline for technical editing
- Dec 2018 - Jan 2019 → technical editing/layout
- Feb, 2019 → publication of next issue
- June, 2018 → hard copies at PE Conference

Papers are expected to report an original contribution on a topic related to process education as outlined in the scope of the journal.

Review Process

All manuscripts will be refereed in a double-blind review process, therefore, two manuscripts should be submitted, one with no identifying information. Your manuscript should be e-mailed to Kathleen Burke at Kathleen.Burke@Cortland.edu.

Manuscripts will be assessed by at least two reviewers using a writing rubric, guided feedback, and the Strength, Improvement, and Insight (SII) method.



Consultation & Peer Coaching

- Do you have an article or idea about teaching and learning that you would like to submit?
- What questions do you have about the authoring/submission/review process?
- Would you like feedback on the current state of development and/or assistance in preparing a manuscript for submission?

PE CONFERENCE PLANNING

www.processeducation.org

- * Conference Committee
- * Symposium Sessions
- * Workshop & Paper Sessions
- * Program Notebook & Website

Theme - Learning to Learn in STEM (and Beyond)

- * Learning to Learn is built on a specific set of methodologies supported by the ideas of Process Education, in pure and applied STEM fields. Learning to Learn becomes a critical for student success.
- * Learning to Learn also provides a framework for thinking about the higher education enterprise. For a change ecosystem to be successful, what does the institution itself need to learn in order for student and faculty processes to be sustainable?
- * We welcome papers, panels, and workshops that explore all facets of Learning to Learn.

Conference Goals

- * Explore models that capitalize on the use of Learning to Learn methods in creating future citizens and workers.
- * Incubate research activities and publications that will propagate research-based practices central to Process Education.
- * Expand and strengthen the community of Process Educators who want to meet annually at the conference to advance all aspects of Process Education practice and research in their role as facilitators of teaching/learning/scholarship.

Process Educators...

...trust and respect students and are willing to shift control of their learning to them. These educators want to see growth in others and strive to foster their own self-growth. They can handle change and are willing to innovate and experiment. Because assessment is the best way to improve performance, they enjoy it, seek it, and practice it.

...Look forward to the annual conference as a forum for celebration and renewal amongst fellow practitioners, leaders, and researchers.

Venue - University of South Alabama (June 24-29, 2019)

The conference will be held at the University of South Alabama campus in historic Mobile, AL, minutes from the bay and a short drive to the beautiful beaches of the gulf coast.

Conference sessions will be held in the Student Center with easy access to on campus housing.

Conference Components

- * **Symposium Sessions** where panels share expertise around conference themes.
- * **Keynote sessions** where nationally recognized leaders share their visions, innovations, and outcomes.
- * **Hall of Innovation** where attendees share personal best practices for teaching/learning.
- * **Practitioner Workshops** where participants engage in interactive learning activities with classroom application, understand and become engaged in the scholarship of teaching/learning.
- * **Research Workshops** where participants learn about Academy plans and engage with other members.

Conference Planning Needs

- * Program Design Team
- * Local Arrangements Coordination
- * Marketing & Communications
- * Recruiting Colleagues
- * Registration & Travel Arrangements
- * Program Notebook Compilation/Editing
- * Online Conference Features


Potential Topics...

- * Learning Methodologies in STEM disciplines
- * Design, Implementation, and Educational Research Surrounding Bridge Courses, Freshman Seminar Courses, and Recovery Courses
- * Application of Learning to Learn Principles in Institutional Change Processes

Conference Facilitation Needs

- * Symposium Facilitators
- * Paper Session Facilitators
- * Workshop Presenters
- * Hall of Innovation Coordination
- * Social Activities Coordination
- * Session Recording & Technical Support
- * Mentors

Hashtags, Pinterest, and YouTube: Speaking the Language of the Millennial Student



© Adapted from: Dr. Richard L. Day
University of North Carolina College of Nursing

Millennial Students – Who are they?

- Students born between 1981-1999
- Technology savvy and comfortable with multitasking
- Value doing rather than knowing
- Optimistic and team-oriented
- Short attention span
- No coping skills for failure, give up easily
- Not as skilled in face to face interactions
- Weak critical thinking skills
- Worst class is need for help
- Increased use of disability services
- Entitlement mentality
- Digital natives – having grown up with technology
- Spend about 7 hours using electronic media

Are you a Digital Native?

- Do you use email?
- Do you text messages or iText?
- Do you watch you tube videos?
- Have you contributed to an online blog or community post?
- Have you ever downloaded music for free?
- Do you have a Facebook page?
- Do you have an email account?
- Do you know what an email is?
- Do you use instant messaging?
- Do you have a Pinterest account?


Calculate your Digital Native Score

For every yes give yourself 1 point

8-10: Digital Native
6-7: Digital Immigrant
5 or less: Living Under a Rock


Speaking the Language of the Millennial Student Using Twitter

- An online social networking service that enables users to send and read short 140 character messages called "tweets"
- Sometimes at the end of tweets users will put a hashtag label in order to link the tweet to others with similar content
- Ex: #WANEsouth
- Millennial students are very familiar with "speaking" this language



How can you use Twitter in your classroom?

- Create your own Twitter Account for your class
- Incorporate hashtags into activities to help students remember important concepts
- Students are encouraged to create their own hashtags
- Control for the best use
- Respectful feedback from students is overwhelmingly positive
- #WANEsouth
- #WANEcommunity
- #WANE




How can you use Pinterest in your classroom?

- A photo-sharing website that allows users to pin items to virtual "bulletin boards"
- Users can click on pins to go to website
- Can be shared with others
- But often captures all of your personal files
- Does not require that you be connected to Facebook
- Can make your own pins
- Users might study the habits, interests for searching for study tips, videos, materials for research
- Can be incorporated into student projects
- Can be used to share student work
- Has a search function
- Has a mobile app
- Has a desktop version
- Has a mobile app



How can you use YouTube in your classroom?

- Video sharing website where people can view or subscribe to video channels
- Embed videos into lessons (PowerPoint)
- Suggest channels for students to subscribe to (Science Minute and Adrenaline Science)
- Videos that contain practice questions
- Visual education helps meet the needs of diverse learners
- Can use YouTube videos in your Pinterest boards



Levels of Learning : A Practical Look

Rich Hauser, Ingrid Ulbrich, Dan Austin,
George Dombi, David Olawale, Sarah Canatsey

Applying an Instructional Lens to Levels of Learning

For each Level of Learning, we

- Identify the **Principle** that underlies that level
- Describe what the **Teacher delivers** to the learner
- Describe how the **Learner demonstrates competency**
- Provide an **Example** in context of the teacher and learner roles

Level 0.5: Pre-Information

Table 1
Levels of Knowledge Across Knowledge Forms Faculty Guidebook, 2.2.2

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 0.5: Pre-Information	Identify the right label for the concept (nomenclature)	Teacher: give a formal definition	Learner: rephrase in their own language	Example: A Bronsted-Lowry acid is a proton donor.	Learner: A Bronsted-Lowry acid is a molecule that loses an H ⁺ in a reaction with another molecule.	

Principle: getting the right label for the concept (nomenclature)

Teacher: give a formal definition

Learner: rephrase in their own language

Example:

Teacher: A Bronsted-Lowry acid is a proton donor.

Learner: A Bronsted-Lowry acid is a molecule that loses an H⁺ in a reaction with another molecule.

Level 1: Informational

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 1: Informational	Repeat the model in the same context	Teacher: Repeat the model in the same context	Learner: Repeat the model in the same context	Example: The reaction $2H_2 + O_2 \rightarrow 2H_2O$ is a redox addition reaction.	Learner: I can identify a redox addition reaction because oxidation numbers change and no reactants create a single product.	

Principle: Repeat the model in the same context

Teacher: Repeat the model in the same context

Learner: Repeat the model in the same context

Example:

Teacher: The reaction $2H_2 + O_2 \rightarrow 2H_2O$ is a redox addition reaction.

Learner: I can identify a redox addition reaction because oxidation numbers change and no reactants create a single product.

Level 2: Comprehension & Understanding

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 2: Comprehension & Understanding	Articulate relationships in a model	Teacher: Challenge the learner to articulate relationships in a model	Learner: Interpret relationships in their own words	Example: After going on a vacation of the signs process improvement methodology (DMAC), the first step, identifying the problem, creates a focus on the problem you're trying to solve. How you can work together to get that idea about the problem to solve. Identifying how you can show the magnitude of the problem. How you see where the process needs to focus, so you make those changes. Using feedback to monitor the improvements, and develop a quality process to maintain the improvements.		

Principle: Learn the relationship between the parts

Teacher: Challenge the learner to articulate relationships in a model

Learner: Interpret relationships in their own words

Example:

Teacher: After going on a vacation of the signs process improvement methodology (DMAC), the first step, identifying the problem, creates a focus on the problem you're trying to solve. How you can work together to get that idea about the problem to solve. Identifying how you can show the magnitude of the problem. How you see where the process needs to focus, so you make those changes. Using feedback to monitor the improvements, and develop a quality process to maintain the improvements.

Level 3: Application (low-level)

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 3: Application (low-level)	Apply similar concepts	Teacher: Presents a problem containing related ideas of multiple parts	Learner: Constructs the example using multiple parts	Example: Construct the example using multiple parts		

Principle: Apply similar concepts

Teacher: Presents a problem containing related ideas of multiple parts

Learner: Constructs the example using multiple parts

Level 3: Example

Example:
Teacher: We introduced the 8 signs process improvement methodology (DMAC) in the context of a food truck. When you apply the DMAC process in a 40-store restaurant where customers are leaving because they have to wait too long.
Learner: *getting the problem* The problem restaurant had a limited number of tables, servers, and kitchen staff. Customers are discouraged when they're told it will take a long time to get a table and serve. Table turnover needs to be increased. *Identify* The number of seats and tables, the number of wait staff, the number of kitchen staff, how long the customers have to wait, the duration that a table is occupied by a guest, how long it takes to prepare and serve a meal. *Define* Analyze the multi-factorial system with appropriate statistical methods to determine the variables that contribute most to customer waiting time. *Organize* Use results of data analysis to design improvement and experiment trials. This may include changing the restaurant physical structure, staff training, etc. *Control* For 4 months after the implementation, continue to measure the process variables to make sure that what were the responsible and keep proving that implementation is being practiced.

Level 3.5: Application (high-level)

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 3.5: Application (high-level)	Transfer to an unfamiliar context	Teacher: Adapt instruction to a problem containing related ideas in new contexts	Learner: Synthesize new solution by adapting general methods to a new context	Example: Transfer the new signs to DMAC, which is a system of systems. Each team will use DMAC to study one of the subsystems. They will come together with each team's results to apply DMAC to the whole hospital.		

Principle: Transfer to an unfamiliar context

Teacher: Adapt instruction to a problem containing related ideas in new contexts

Learner: Synthesize new solution by adapting general methods to a new context

Example:

Teacher: Transfer the new signs to DMAC, which is a system of systems. Each team will use DMAC to study one of the subsystems. They will come together with each team's results to apply DMAC to the whole hospital.

Learner: Learners split into groups with each handling single system and in the end, combining the systems.

Level 4: Working Knowledge

Level of Learning	Principle of Learning	Teacher	Learner	Task	Assessment	Example
Level 4: Working Knowledge	Generalized knowledge can be transferred to any new context	Teacher: Challenges students to find their own problems to solve	Learner: Construct (illustrate) their own context and show problem solving	Example: Can you provide the example for		

Principle: Generalized knowledge can be transferred to any new context

Teacher: Challenges students to find their own problems to solve

Learner: Construct (illustrate) their own context and show problem solving

Example: Can you provide the example for

Teacher:

Learner:

• **Direct all students to set their own personal goals** for the course because it forces them to be responsible and a self-directed learner; thus, fostering personal ownership in the course and to their success.

• **Obtain shared commitment to the course with a contract** because the contract formally commits them to take ownership of their learning in the course. This process helps them see how the course contributes to their life plan.

• **Writing to Think** as a way to increase ownership for students because this writing facilitates exploration and enables freedom of imperfection through using mediums such as a journal entry, reading log, brainstorming, and serves as a tool to engage the learner with reflection on content.

• **Establish clear learning objectives** (and/or learning outcomes) because with clear learning objectives, students can assess their progress towards mastering these objectives, and determine their own path to reach this goal.

INCREASING OWNERSHIP & EFFICACY

• **Assess the Assessor** because this gives the students the opportunity to give the facilitator feedback on the assessment which could lead to ownership.

• **Establish clear, measurable performance criteria** (and/or learning objectives?) because having clear performance criteria allows students to focus on the end products of their learning (or purpose of the activity?), which should allow them to take ownership of the process that will lead them to that end point. These performance criteria should be presented for each unit of the class (e.g., the activity or chapter).

HOW DO WE INCREASE OWNERSHIP & EFFICACY IN OUR STUDENTS?

- **Efficacy** (Self-Confidence, Being Positive, Committed to Success)
 - Use a survey tool to assess personal ability to succeed.
- **Ownership** (Self-Initiated, Through Time)
 - Share all responsibility before, during and after each learning experience to ensure knowledge that helps control quality of work.

• **Clearly connect evaluation to the learning objectives** (and/or outcomes?) because students can see the connections between mastering the learning objectives and success in the course, and they can take ownership of their planning and evaluated performances.

• **Conduct a syllabus analysis activity** because this activity helps students solidify ownership & efficacy through identify the learning outcomes, learning criteria, personal responsibility, and how to measure their growth.

• **Defined roles for cooperative Learning** because as students engage activities through cooperative learning roles, they develop ownership - the well-defined roles give structure. This established collaboration around the task and produces buy-in.

• **Teach students the difference between assessment and evaluation** because this builds confidence and reduces their fear of being judged, which enhances efficacy and ownership.

Strategies for Building Buy-In of Process Education on Campus Using John Kotter's 8-Step Change Model

Paula Pines, M.S., D.Ed., SUNY Buffalo
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Source: J. P. Kotter, 2002, *Leading Change*, Boston, MA, Harvard Business Review Press.

Introduction

Inspiring change on college and university campuses is difficult. The Silver Medal team asked Dan Apple how to approach institutional leadership in a way that will promote change in process education.

In response, he asked us to develop 15 strategies for promoting change to share in a poster session. After researching ways to present our strategies, we decided to use John Kotter's 8-Step Change Model as a framework to present our strategies.

1. Establishing Sense of Urgency

- show problems with current processes (e.g., student performance, exit data)
- show data with percentage of courses delivered by lecture format
- show that Process Education is an alternative to improve student performance

2. Forming a Powerful Guiding Coalition

- identify faculty, staff and administrators who have the power to lead the process
- bring voice of students into conversation
- identify and neutralize change resistors
- get buy in, commitment

3. Creating a Vision

- create a vision of high performing students
- develop strategy
- set clear goals with consistent language

4. Communicating the Vision

- get buy in, commitment
- give demonstration class for faculty, staff and administrators, invite to Recovery Course
- work with Communications and Marketing to share the message.

5. Empowering Others to Act on the Vision

- educate faculty, staff and administration on the vision
- create learning environment, culture
- provide support and resources to implement Process Education

6. Planning for and Creating Short-Term Wins

- prepare action plan to achieve change
- reward constructive behavior

7. Consolidating Improvements and Producing Still More Change

- develop assessment process to measure success
- give feedback
- modify plan to continue removing obstacles and improving student success

8. Institutionalizing New Approaches

- identify any additional resources (people, structures, money) to sustain the vision
- scale up/replicate vision throughout campus

Conclusion

In general, people are resistant to change because of habit, fear, not realizing the need to change, or the effort required to change.

Resistance to change can be overcome by shaping political dynamics, educating the community about the benefits of change, involving the faculty and staff in the change efforts, rewarding constructive behaviors, and creating a learning organization.

Voice of novices:
Insights from
Process Education Workshop

Jessica Adams, Steve Frazza,
Hailey Kwiatkowski, James Rich,
Cynthia Woodbridge



Process Education

Learning Objective

- Expand knowledge of process education



Process Education

Contracts

- Formal student commitment to their success at the beginning of a course.

Key Principle 1: Faculty must fully accept responsibility for facilitating student success.



Process Education

Quality Learning Environment

- Creating an Ecosystem for Learning
- Sustainability by creating a Quality Learning Environment (QLE)

Key Principle 2: In a quality learning environment, facilitators of learning (teacher) focus on improving specific learning skills through timely, appropriate, constructive interventions.



Process Education

Competency Based Grading

- Competency-based grading:
 - creates a quality learning environment by setting clear performance criteria (outcomes), and permitting failure, setting high expectations.
 - assumes that everyone can learn and achieve.

Key Principle 5: Every learner can learn to learn better, regardless of current level of achievement; one's potential is not limited by current ability.



Process Education

Culture of Continuous Self-Assessment & Measurement

Insight: An assessment culture, and the trust and personal affect required is essential for effective ideation group design work.

Action: Integrate learning and practice of self-assessment as a foundation for learning and practicing ideation and design education.

Principle 8: An empowered learner is one who uses learning strategies and self-assessment to improve future performance.



Process Education

Sharing with Colleagues

- Share the merits of assessment of self, of learning activities, of courses in order to promote growth and improvement with my institution.

Key Principle 10: An educational institution can continually improve its effectiveness in producing stronger learning outcomes in several ways: by aligning institutional, course, and program objectives; by investing in faculty development, particular innovation, and design of performance measures; by creating an assessment culture.



Process Education

Key Principles of Process Education

- Faculty must fully accept responsibility for facilitating student success
- In a quality learning environment, facilitators of learning (teacher) focus on improving specific learning skills through timely, appropriate, constructive interventions.
- Students use specific methodologies that model the ideas or activities they must master in order to improve their own learning goals.
- A Process Educator can continuously improve PE concepts, practices, and tools used by being observant and inquisitive in the classroom.
- Educators should assess students regularly by measuring accomplishments, then should model assessment practices, provide model feedback, and help students improve their self-assessment skills.



Process Education

Key Principles of Process Education (cont'd)

- Every learner can learn to learn better, regardless of current level of achievement; one's potential is not limited by current ability.
- Integrate ideation and practice of self-assessment as a foundation for learning and practicing ideation and design education.
- An empowered learner is one who uses learning strategies and self-assessment to improve future performance.
- To develop expertise in a discipline, a learner must develop a specific knowledge base on that field, but must also acquire general, life-long learning skills that underlie all disciplines.
- An educational institution can continuously improve its effectiveness in producing stronger learning outcomes in several ways: by aligning institutional, course, and program objectives; by investing in faculty development, particular innovation, and design of performance measures; by creating an assessment culture.



Process Education

Approaches to Generate Student Buy-In

Team 3:

Joseph Anagnoste, Georgia Southwest College, Lawrenceville, GA
Lafonda Calvert, Mohk Community College
Deborah Givney, Colorado State University
Guendolyn Perrywell, Univ. of South Alabama
Shirley Spicklenovic, Shady

Mechanism 1: Develop Partnership Early

- Implementation**
 - Create a forum prior to the first day, to introduce students to each other
 - Spend time at the beginning of the course for introductions
- Impacts**
 - Will feel they have friends and resources
 - Increase students belief that they can succeed
 - Encourage students to be active not passive
 - Lessens apprehension about not having the required skill sets

Mechanism 4: Reinforce/Maintain Commitment

- Implementation**
 - Daily Feedback - As part of online quiz, include an Open Response Query that students can use to provide daily feedback regarding course processes and policies. This will help to sustain buy-in throughout the course.
- Impacts**
 - Encourage students to be active not passive
 - Buy-in maintained

Why Do We Need Student Buy-In?

- The challenges learners face: learning immense amounts of new knowledge
- Traditional methods emphasize listening to lectures & reading - but retention is only 10%



Mechanism 2: Explore the benefits of the growth mindset

- Implementation**
 - Handouts to describe growth mindset, academic mindset, character of the self-esteem
 - Provide activities (e.g. Select and describe 2 factors from the handouts that you are strong in. Select and describe 3 traits that you want to grow in yourself this semester)
- Impacts**
 - Increase students belief that they can succeed
 - Encourage students to be active not passive
 - Lessens apprehension about not having the required skill sets

Verification

- Monitor students behavior and participation in active learning activities
- Monitor success on assessment and evaluation levels
- Select and review student reflection at the end of the course
- Track the drop/failure rates in the course

Creating the Student Buy-in Environment

- Prerequisite: Underlying Faculty Belief**
 - Faculty must believe that every student can succeed
- Mechanisms**
 - Develop partnerships with students early in the course
 - Explore the benefits of the growth mindset
 - Develop concrete sets of expectations
 - Reinforce/maintain commitment

Mechanism 3: Develop a concrete set of expectations for students and faculty

- Implementation**
 - Select a list of desirable and undesirable faculty behaviors from students
 - Select a list of helpful and unhelpful student behaviors from students
 - Circle the most pertinent items on both lists
 - Formulate a "contract" of faculty and student commitments based on these behaviors that will maximize student productivity and learning
- Impacts**
 - Encourage students to be active not passive
 - Increase student commitment
 - Lessens apprehension about expectations

Conclusions: Benefits of Student Buy-In

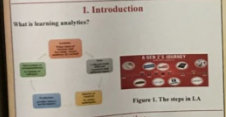
- Motivational Tool
- Academic growth
- Builds Student Confidence
- Will engage/commit
- Build Trust
- Prepare and Beyond

Will the current Learning Analytics Data be helpful to solve the challenges of Gen Z's Education?

GANNON UNIVERSITY

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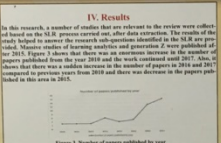
Abstract
Learning Analytics focuses on the students and their learning behaviors, and help them achieve better outcomes, who appear less likely to succeed academically. Generation Z (Gen Z) grew up with the internet, and phones, tablets, etc. They prefer to use social media for learning. This research examines Gen Z's learning behaviors, their challenges, and how Learning Analytics can help them overcome these challenges. The research also explores the challenges of Gen Z's Education.



I. Introduction
What is learning analytics?
The objectives of this systematic literature review (SLR) protocol are to find the capabilities of the current learning analytics and the way Generations Z use it, the effect of using the current LA tools and the user results. The results that could be used to improve the current LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results.

II. Objective
The objectives of this systematic literature review (SLR) protocol are to find the capabilities of the current learning analytics and the way Generations Z use it, the effect of using the current LA tools and the user results. The results that could be used to improve the current LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results.

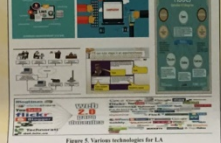
III. Approach
The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results.



IV. Results
In this research, a number of studies that are relevant to the review were collected based on the M.R. research trend, after data extraction. The results of the study helped to answer the research objectives identified in the M.R. and provided. Most studies of learning analytics and generation Z were published in 2015. Figure 3 shows that there was an increase in the number of papers published from 2014 to 2020 and there was a decrease in the number of papers published in 2014 and there was a decrease in the number of papers published in 2014.



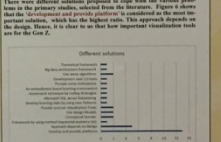
Figure 4: Genre of papers published by different countries
The results of the study showed that the majority of papers were published in the USA (3), Spain (2), and Canada (1). The results of the study showed that the majority of papers were published in the USA (3), Spain (2), and Canada (1). The results of the study showed that the majority of papers were published in the USA (3), Spain (2), and Canada (1).



RQ1: What type of conclusions can we get from the current LA about the course/student?
1. A more active role in the student's learning.
2. Helping students to improve their results.
3. Discovering areas where students are struggling.
4. Institutions can design better courses based on the findings.
5. Allow the students to follow their curriculum.
6. The students are encouraged to become more creative in the classroom.
7. Allow students for fair delivery of content, data, and graphics.

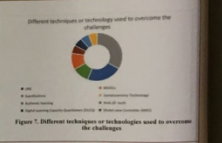
RQ2: What are the different challenges Generation Z face?
1. Dependency on technology.
2. Short attention span.
3. Bad learners.
4. Lack of critical thinking skills.
5. Visual preferences.
6. Preference to use text, chat, Facebook, games, etc.
7. Confusing information: doesn't know how to use the internet and so on. In order to find information, much information available online that will get confused.
8. Gen Z students prefer to learn best by doing/teaching.

RQ3: What are the different solutions proposed to cope with the challenges?
There were different solutions proposed to cope with the various problems in the primary studies, selected from the literature. Figure 5 shows that the primary studies proposed a combination of the most important solutions, which are the biggest ones. The approach depends on the design. Hence, it is clear to see that the important solutions tools are for the Gen Z.



RQ4: What are the different techniques or technologies used to overcome the challenges?
1. Learning Management Systems (LMS).
2. Learning Analytics Tools (LAT).
3. Learning Analytics Dashboards (LAD).
4. Learning Analytics Reports (LAR).
5. Learning Analytics Tools (LAT).
6. Learning Analytics Dashboards (LAD).
7. Learning Analytics Reports (LAR).
8. Learning Analytics Tools (LAT).
9. Learning Analytics Dashboards (LAD).
10. Learning Analytics Reports (LAR).

RQ5: What are the different techniques or technologies used to overcome the challenges?
The objectives of this systematic literature review (SLR) protocol are to find the capabilities of the current learning analytics and the way Generations Z use it, the effect of using the current LA tools and the user results. The results that could be used to improve the current LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results. The SLR protocol was used to provide an overview of the current research on LA tools and the user results.



V. Recommendations
Faculty may integrate interactive using technology for a course to help them using a traditional textbook and provide them in the best 20. recommendations are:
1. Faculty may make short lecture sessions and create interactive slides by using technology tools such as YouTube so that students can watch at their leisure time.
2. Faculty may explain how assignments could help students to make a difference in their lives and the communities while giving assignments based on a home plant or project.
3. Faculty may organize team working in groups, and collaborating online help students.
4. Faculty should help students to collect online resources by themselves, what sites need to be identified that would provide the most credible and unbiased information.

VI. Limitations
Data privacy is a difficult problem facing the learning analytics. Using the student data for analysis brings up many privacy issues. Faculty students are more comfortable with old ways; they don't want to change or switch to adapting to new technology.

VII. Conclusion
The effectiveness of technology-based learning progress is better than the traditional learning process. Also, analysis of learning shows that it is better to use the virtual skills and hands-on learning style rather than an online form, which has automatically dominated the classroom.

References
[1] <https://www.researchgate.net/publication/315171777>
[2] <https://www.researchgate.net/publication/315171777>
[3] K. Maki, E. Maki "Understanding Generation Z Students to Promote a Computer's Learning Environment" *Journal of Empowering Teaching Excellence*, Vol. 1, No. 1, Article 8, March 2017.
[4] B. Akbar & H. Hani (2013) "Using Analytics to Predict (and Improve) Student Success" in *Journal of Learning Analytics*, Volume 15.

Purpose
Targeting student risk factors through practical application of learn to learn concepts

Learning Objective
Apply learn to learn techniques to at-risk students to ensure successful academic outcomes

Performance Criteria
Demonstrate the process of activity development
Create critical thinking questions of increasing complexity
Enhance learning through self-assessment

Orientation to Learning: The Impact of Risk Factors on Academic Success

Assessing the "Why":

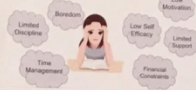
- Examining how risk factors for failure
- Academic success hinges on addressing and leveraging risk factors in a productive way

Assessing the "How":

- Linking Risk Factors with Classroom Activities
- Classroom engagement is critical to retention
- Risk factors lead to greater academic difficulty, reducing retention
- Addressing risk factors through activities can lead to greater retention

Activity Design Template	
Name	
Course	
Section	
Topic	
Learning Objectives	
Activity Description	
Activity Type	
Activity Format	
Activity Duration	
Activity Materials	
Activity Preparation	
Activity Evaluation	
Activity Reflection	

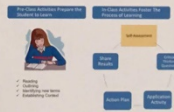
Scenario: My Freshman Year Risk Factors



Would You Like to Ensure Academic Success?

An activity development method targeting academic risk factors.

North of Chicago, David Berke, Christian Science, John Hays, Jerry Hines



Example of Activity Development

Activity	Description
Activity 1	Identifying Personal Risk Factors in Academic Success
Activity 2	Examining the Impact of Risk Factors on Academic Success
Activity 3	Linking Risk Factors with Classroom Activities
Activity 4	Addressing Risk Factors through Activities

Examples of Key Critical Thinking Questions

- **Identify:** What is the meaning of the reading?
 - What are the top 10 risk factors common to all groups?
 - What were strategies that helped in the past leading to success in school?
 - What is the main message each of the risk factors provide academic success?
- **Compare:** Comparing risks
 - What are implications of the factors from other risk factors assessment?
 - How does addressing the factors increase your degree of success?
 - Which risk factors can be addressed immediately?
- **Discuss:** Thought-Provoking
 - Which strategies continue to be with risk factors when they can be addressed?

Overcoming Risk-Factors Through Self-Assessment



Evaluation vs. Assessment

- **Evaluation - Judgment**
 - Grades or pass
 - Assigning a value
- **Assessment - Growth**
 - Success
 - Improvement
 - Insight

Readings and Resources

Readings: Identifying the Risk Factors That Predict College Student Retention
Journal of Research on Higher Education, 2011, 52(1), 65-80
Links to resources on this page: The Learning Objectives and Assessment System
International Journal of Process Education, 2010, 3(2), 11-22

UIndy Elementary Education STEM Curriculum

Steve Spicklemire, Libby Turner, Nancy Steffel

Shaheen College of Arts & Sciences + School of Education @ University of Indianapolis

What is it?

A 5 semester sequence of STEM courses designed to improve self efficacy among our elementary teacher candidates. Insights from process education can play an important role in shaping the implementation of this curriculum.

Design Process

Arts & Sciences collaborated with Education to formulate a new El. Ed. curriculum
 Started out with traditional "silo" framework (top Fig. 1)
 Ended up with integrated STEM curriculum (bottom Fig. 1)



Figure 1: Design Thinking Process

What are the benefits?

Courses are sequenced so that concepts can be layered and experienced using a "spiral" approach.
 Sequence is long enough that a fuller appreciation of the scope of the interconnections among STEM disciplines can be developed.
 Courses are designed to incorporate terminology and assessment concepts from the NGSS.

Semester	STEM Courses	EIEd Courses + Field Experience
Year 1, Sem II	ENGR 101: Engr. for Education SCI 101: Staying Alive with Science	ELED 151: Psychology of Learning ELED 152: Multiple Literacies
Year 2, Sem I	MATH 208: El.Ed. Math I, Number SCI 201: Cosmos & Solid Earth	ELED 202: Univ. Design for Learning ELED 203: Literacy Lesson for STEM EDUC 272: Exceptional Learners
Year 2, Sem II	MATH 209: El.Ed. Math II, Stats SCI 251: Diagnosis & Med. Tech.	ELED 251: Learners & Motivation ELED 252: Designing & Teaching STEM for All Learners
Year 3, Sem I	MATH 210: El.Ed. Math III, Geometry SCI 301: Science of Health & Nutrition	ELED 302: Multi-tiered Systems ELED 303: Inclusion & co-teaching
Year 3, Sem II	SCI 351: GeoBiology & the Environment	ELED 351: Transdisciplinary Ed. ELED 352: Assistive Technology

Figure 2: Course Sequence/Grid

Figure 3: Intro Document, Literacy Objectives

NGSS Domains

Figure 4: NGSS Domains for Integration and Assessment

Integration Example

SCI 201: The Cosmos and the Solid Earth: This course introduces students to the methods by which we develop understanding of the history of the universe. Specific emphasis will be on the formation of our solar system and particular properties of our planet with an emphasis on the development of life and the mechanisms responsible for plate tectonics.

Contact Information

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"The Thrill is Gone: The Decline of Passive Learning and the Need for Effective Classroom Strategies for Igen."
Presented by: [Name], [Institution]

Who are Igen Learners?

- Millennials
- Tech Savvy
- Progress
- Social Media Addicts
- Skilled Electronic Gadget Users

Igen in Institutions of Higher Learning

- Statistics and Data (2016) report that these Digital Natives (18-29) comprise the dominant generation of students currently entering college.
- The Truth of Passive Learning is GONE!
- College/University Gen Z Surveys
- Research about Gen Z Students

The Need For Effective Classroom Strategies for Igen!

- It may be unrealistic to expect standard or "passive" students as a way to succeed and succeed requires students. Miller, 2011.
- Kathleen Miller and Eric Miller (2017) instructors should consider a variety of options and modes of assignments, recognizing that a bulk of student's higher education will be necessary in the workplace or the broader college.
- Potential consequences that institutions of higher learning will face if they fail to implement effective classroom strategies for Igen.

My Effective College Classroom Strategies for Igen Students!

- Open Class Discussions
- Current Event Articles
- Group Projects
- Student Successes and Achievements in My College Course

Conclusion: It's Time for College Professors to Think Outside of the Box!

- College Professors MUST Go!
- Break It Down
- Engage
- Inspire
- Create a Quality Learning
- Student Successes in my
- College course for a semester

Works Cited

- Miller, K.A., & Miller, E. (2017). Generation Z: Implications for the Classroom. *Journal of Management Inquiry*, 26(1), 1-13.
- Statistics, C. & Data, W. (2016). Generation Z: The Future of Learning. *Workforce*, 14(1), 1-10.

1980s COGNITIVE LOAD THEORY (CLT) BASED PROBLEM SETS TO SUPPORT PROBLEM SOLVING SKILLS IN GENERAL CHEMISTRY COURSES

Dr. Victoria Bentley, Ph.D.
Dr. James E. Cook, Ph.D.
Dr. Richard W. Smith, Ph.D.
Dr. Charles W. Overton, Ph.D.
Dr. James H. Hill

GEORGIA GWINNETT COLLEGE AT A GLANCE

Established in 1962, Georgia Gwinnett College has over 20,000 students and 1,000 faculty members. The college is a member of the Southern Association of Colleges and Schools (SACS-CAS).

HUMAN COGNITION

Incoming Stimulus

Short-term Memory
• Max of 7 (synthesized items synthesized for 20 seconds)

Long-term Memory
• No known limit
• Status of Knowledge

Learning Schema Construction

TYPES OF COGNITIVE LOAD

Intrinsic	Extraneous	Germane
Based on the material	Based on the presentation	Based on the learner's condition

COGNITIVE LOAD THEORY

CLT PROBLEM SET IMPLEMENTATION

Topic	Rank	Topic	Rank
Stoichiometry	1	Learning Objectives	8
Thermochemistry	2	Stoichiometry	9
Gas Laws	3	Acid-Base Equilibrium	10
Chemical Equilibrium	4	Thermodynamics	11
Electrochemistry	5	Equilibrium	12
Chemical Kinetics	6		
Atomic Structure	7		

CLT PROBLEM SET IMPLEMENTATION

Sample Question: If we have 100 gallons of liquid, how many bulbs in this system that 1 teaspoon = 0.98 bulb, and 3 teaspoon = 0.03 gallons?

Student	Problem 1	Problem 2	Problem 3	Problem 4	Problem 5
Step 1	Expert	Expert	Expert	Expert	Expert
Step 2	Expert	Expert	Expert	Expert	Expert
Step 3	Expert	Expert	Expert	Expert	Expert
Step 4	Expert	Expert	Expert	Expert	Expert

RESULTS FALL 2017 CHEMISTRY (PILOT)

Topic	Final Assessment Score (2017)	Final Assessment Score (2016)
Stoichiometry	54.2% (140/257)	52.2% (135/257)
Thermochemistry	48.2% (124/257)	46.3% (119/257)
Gas Laws	42.3% (108/257)	40.5% (104/257)
Chemical Equilibrium	38.5% (98/257)	36.2% (93/257)
Electrochemistry	35.8% (92/257)	33.1% (85/257)
Chemical Kinetics	32.1% (82/257)	30.4% (78/257)
Atomic Structure	28.4% (73/257)	26.7% (68/257)

RESULTS FALL 2017 CHEMISTRY & PILOT

Topic	Final Assessment Score (2017)	Final Assessment Score (2016)
Stoichiometry	54.2% (140/257)	52.2% (135/257)
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Electrochemistry	35.8% (92/257)	33.1% (85/257)
Chemical Kinetics	32.1% (82/257)	30.4% (78/257)
Atomic Structure	28.4% (73/257)	26.7% (68/257)

STUDENT RECEPTION OF CLT QUESTION PACKETS

85% of students who completed the question packets reported their problem solving ability improved.

CONCLUSIONS

- Performance indicates neither negative nor positive impact on student learning.
- Challenges:
 - Student and instructor buy-in
 - Consistent administration of problem sets across sections
- Student comments indicate that CLT problem sets are helping to develop their problem solving abilities.



- ### First Week
- Background
 - Product or service offerings
 - Competitors and competitor strategies
 - Research the industry
 - Prepare questions for client meeting
 - Sign confidentiality agreement

- ### Formal Presentations of Marketing Plans
- Business owners/ managers, faculty and students
 - Letters requested from client organizations to indicate level of satisfaction with marketing plan recommendations
 - Positive feedback from students and clients

- ### Client-Based Projects in a Graduate Strategic Marketing Management Course
- Students:**
- Gain experience applying marketing concepts to real-life business situations
 - Develop consulting and research skills
 - Gain relevant marketing experience
 - Team building skills
 - Problem solving skills
- University:**
- Build relationships with small businesses and nonprofits
- Small businesses and nonprofits:**
- Access to marketing activities

- ### Marketing Plans
- Situation analysis
 - Climate analysis
 - SWOCh
 - Target market and market segmentation
 - Alternative marketing strategies
 - Data and support for marketing strategy and implementation
 - Short-term and long-term recommendations
 - Contingencies

- ### Assessment
- Marketing plans and presentations critiqued by classmates
 - Students self-assess
 - Rate contributions of team members
 - Faculty challenge - how to assign grades fairly
 - Clients provide feedback
 - Follow-up to determine if:
 - companies are successful in implementing the recommended marketing strategies
 - student recommendations benefit the organization

- ### Client-Based Projects in a Graduate Strategic Marketing Management Course
- | | |
|---|---|
| <p>Student Teams</p> <ul style="list-style-type: none"> • Mix of traditional, professional and international students • Develop organizational, analytical and communication skills • Accountability to team members and client • Develop plan for individual contributions of project | <p>Clients</p> <ul style="list-style-type: none"> • Must understand expectations and be committed to project • Available to meet early in semester • Answer follow-up questions throughout semester • Attend marketing plan presentation • Provide feedback |
|---|---|

- ### Effective Course
- Detailed rubrics
 - Faculty attendance at client meetings
 - Sharing project challenges with colleagues
 - Weekly progress reports
 - Constructive feedback from faculty
 - Direction for improvement
 - Feedback from clients
 - Students must understand the organization's situation
 - Develop recommendations with detailed plans for implementation based on budget constraints, available human resources and company priorities

- ### Benefits of Client-Based Projects
- Students develop relevant marketing experience by working on real world marketing challenges
 - Students receive assessment from self, team members, peers, faculty and business managers
 - Clients receive valuable marketing assistance
 - Satisfied clients create positive relationships between local businesses, nonprofit agencies, the university, and the community

Getting Started with Open Education Resources

Dr. Jessica Harter
Lantern University

<https://tinyurl.com/PE4G2218>

<https://twitter.com/jessicaharter> @jessicaharter

What are Open Education Resources (OER)?

-Any educational resources that reside in the common domain or are shared via a Creative Commons License

-These can include free text books, but also consider websites, apps, news stories, freely shared videos, etc.

Advantages of OERs

Allows greater customization of course material than traditional textbooks.

Frequently, paper-free and better for the environment.

Often more up to date. Less (if any) publication lag.

Saves our students money. Average student spends \$1,200/year on textbooks, graduates with \$37K of college debt, and works at least part time.

Learning outcomes similar as when using paid resources. Positively regarded by students.

Challenges of OER

Sometimes, less faculty supplemental materials.

Still require internet access and computer/smart device to access.

Most content is digital.

Concerns about the quality of free materials from the internet.

General introduction to OER

• **OPEN:** The philosophy and practices that are revolutionizing science

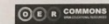
• Openly controlled by academics who have embraced and licensed with OER (including post-trip)

• Available for free via Creative Commons license

• **College Libraries of Ontario's Welcome to the OER toolkit** is a step-by-step guide of things to consider, concerns, resources for going OER



Popular OER repositories



OpenStax Access. The future of education.

Includes sets, assessments, lesson plans, modules, lectures, student guides, in addition to textbooks.

Free licensed textbooks for high-enrollment college courses across a variety of disciplines.

Curated videos as OER

Crash Course
Brief, expert content about a variety of topics

Plan Academy
Share their math-related books, learning modules.

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Other OER sources

Interactive websites for your discipline

Pop writers in your discipline

The **Yosemite Library** makes the Open Find the **Wish** **Book** for **Early** **Reading** in

Find your title on **Twitter**

Curated awards that apply to your discipline

Read **Research** **and** **Progress** **to** **know** **when** **you** **need** **to** **change** **your** **title**

Ask your librarian

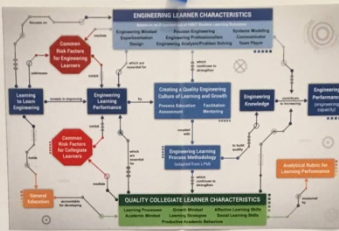
Your library probably has access to online textbooks that **AREN'T** open source but **ARE** freely available to anyone associated with your university.

Your library may even have an OER/Digital Librarian.

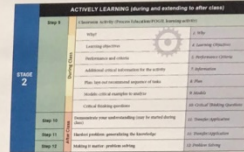
Learning to Learn Engineering Why is it critical?

Academy of Process Educators'
Annual Meeting
June 14, 2018

Stevr Beyersheim, Drs Lutzschig, W. L. Scheller,
Mohammed El-Nagdy, Ousseni Elomrani, Jim
Morgan, Virgil Cox, S. Raj Choudhury, David
Lecture and Dan Apple



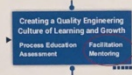
Engineering Learning Process Methodology



Forms of Knowledge

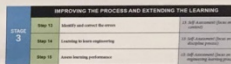
Form	Assessment
Concepts	Conceptualization of Energy Resilience Sustainability
Processes	Design Experimentation Drawing a Free Body Diagram
Skills	SQL Programming Language J.P. Writing
Contexts	Water System Smart Grid Manufacturing
Ways of being	Safety Professional Protocols
Rules	Standards Code of Practice Governing Equations

Needed Changes to Engineering Ed.



- Lose the survivor mentality
- Students need to own their learning
- Faculty need to build courses accordingly

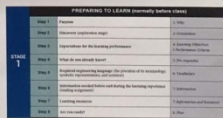
Engineering Learning Process Methodology



Risk Factors

Risk Factor	Impact	Mitigation Strategy
Student's lack of motivation	Low engagement and performance	Implement active learning strategies
Faculty's lack of training	Ineffective teaching methods	Provide professional development opportunities
Outdated curriculum	Relevance gap	Regularly update course content
Lack of industry connections	Reduced practical experience	Establish partnerships with industry
Overemphasis on theoretical knowledge	Weak problem-solving skills	Increase hands-on learning activities
Insufficient assessment methods	Unreliable performance metrics	Use diverse assessment tools
Lack of student support services	Increased academic struggles	Enhance tutoring and counseling services
Large class sizes	Reduced individual attention	Utilize smaller group settings
Variable student backgrounds	Knowledge and skill disparities	Implement differentiated instruction
Competition from other programs	Student attrition	Highlight program strengths
Limited resources	Restricted learning opportunities	Seek external funding and partnerships
Resistance to change	Slow adoption of new methods	Engage faculty in decision-making
Fragmented institutional efforts	Inconsistent quality	Align learning goals across departments
Over-reliance on traditional lectures	Passive learning environment	Integrate technology and interactive tools
Lack of clear learning outcomes	Unclear expectations	Define and communicate specific outcomes
Insufficient data for decision-making	Uninformed adjustments	Implement regular assessment and feedback loops
Overemphasis on content delivery	Weak critical thinking skills	Focus on application and analysis
Lack of industry-relevant projects	Reduced employability	Develop capstone and internship programs
Fragmented communication	Confusion and misinformation	Establish clear communication channels
Overlooking student well-being	Increased stress and burnout	Provide mental health support
Lack of interdisciplinary collaboration	Missed opportunities for innovation	Encourage cross-departmental projects
Insufficient emphasis on ethics	Weak professional conduct	Integrate ethics into the curriculum
Over-reliance on standardized tests	Narrow assessment scope	Use holistic assessment methods
Lack of student autonomy	Reduced ownership of learning	Encourage self-directed learning
Fragmented learning experiences	Inconsistent quality	Align learning goals across departments
Overemphasis on content delivery	Weak critical thinking skills	Focus on application and analysis
Lack of industry-relevant projects	Reduced employability	Develop capstone and internship programs
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Engineering Learning Process Methodology



Conclusions

- Learning engineering is a process with strong similarity to both the general case and other specific fields
- Risk factors for engineering students include the unique requirements of system
- Changes in culture are needed to support modern engineering students in the learning process

**2018/2019
Academy of Process Educators
Online Professional Development**

Special One-time Only

**A Review of the Articles in the
25 Year Edition of IJPE**

The Special Edition of IJPE

The Special Edition of the IJPE Celebrating 25 Years of Practice and Scholarship in Process Education is an extremely valuable resource for and of the Academy. This series is to elevate all current academy member Process Education expertise and practice. This workshop series will be for the Academy facilitated by the Academy Members. The Schedule of 23 workshops will be facilitated by the following Volunteers.

Signing Up

- Thursday Nights — 6:00 pm Eastern Time every other week starting June 28, 2018
- Sign—up as a volunteer presenter
- Sign—up 3 of your faculty as participants
- Each member of the Academy that has three members of their college participate in over 60% of the session will get a special prize — A Box of 30 Special Editions shipped to their college.

Mixing Oil and Water: Classroom Activities for Quantitative Introductory Courses

Dr. M. Garrett Roth
Dahlkemper School of Business

roth026@gannon.edu

ABSTRACT

Introductory courses that are largely quantitative are a difficult setting in which to engage the college-level class via student-centered activities. I provide examples from my own Introductory Microeconomics (BCOR 111) sections and offer broad guidelines, drawn from experience rather than theory, for the successful deployment of such classroom activities. The general suggestions for quantitative classroom activities are as follows: (i) use teams or pairs whenever possible, (ii) offer tangible rewards as incentives, (iii) make activities self-contained, and (iv) reference activities as much as possible in subsequent lecture to capitalize on the intuition previously generated.

MOTIVATION

- Break up predominantly lecture-based course
- Illustrate the universality of basic economic principles
- Force students to self-test on comprehension of concepts

Activity 1—Trade and Cooperation

- Students randomly assigned capabilities in root beer and pizza
- Graph the advantages of (i) specialization and trade (ii) cooperation using comparative advantage
- 10-15 minutes working in pairs

Verdict: Took to activity with enthusiasm; necessary early check on graphing skills

Activity 2—Candy Endowments

- Students "endowed" with either 2 fun dip sticks OR 2 packets
- Given 5 minutes to trade on mutually agreeable terms

Verdict: Provided solid basis for intuition on difficult concept (Edgeworth Boxes)

Activity 3—Deduce the Preference Ranking

- Played opening scene from "Indiana Jones and the Temple of Doom"
- Students in groups of 3-4, given 5 minutes to deduce preference rankings of Indy and gangster from actions in clip

Verdict: Illustrated omnipresence of economic logic; reinforced subjectivity of value

Activity 4—Pearl Exchange

- Half of class given plastic pearl and seller's value; half given buyer's value
- Four rounds of trading: 1 — as above; 2 — buyers become seller; 3 — shortage; 4 — surplus
- Motivation: top two scores (total surplus) can skip extra question on quiz

Verdict: Surplus maximization wasn't taken seriously by all; some fatigue by 4th round

Activity 5—Pollution Permit Market

- Four teams with equal number of permits, unequal (public) pollution levels, unequal (private) costs to reduction and amounts of cash
- Buy / sell permits for 20 minutes — pay to reduce pollution less permits after trading

Motivation: team with most net cash gets "mulligan" on attendance quiz

Verdict: Enjoyed by students; created "felt experience" from theory; group aspect critical

Activity 6—Federal Spending Quiz

- Students asked to match U.S. government spending category with percentage of budget, tied to public goods discussion
- Expectation: significant underestimation of Social Security and Medicare / Medicaid; overestimation of military spending

Verdict: Responses shockingly accurate; no "A-HA" moment

Activity 7—Voting Paradox

- Provide individual preferences over 3 meal options (via slips of paper)
- Use assigned preferences to illustrate the possibility of cycling in pair-wise voting

Verdict: Belly-flop — students conflated own preferences with assigned preferences (end of semester fatigue?)

GREEN — Activity retained RED — Activity scrapped



TAKEAWAYS

(i) Group-based activities useful when feasible

- Some students more outgoing and motivated than others
- Let students self-select pairs / groups

(ii) Ideal length is 5-15 minutes; longer activities should generate more intellectual "mileage"

(iii) Incentives matter

- Give students a reason to take activities seriously
- Examples: "mulligan" on attendance quiz; skip an (extra) exam question

(iv) Make activities self-contained

- Logistics of pre- and post-class prep too cumbersome to pay dividends
- Do not expect prior knowledge / mastery of concepts

(v) Reference activities as much as possible in subsequent lecture

- Avoids the feeling of "fun but useless"
- Remember purpose; make economic behavior a felt experience

Curriculum Development & Outcomes of the LECOM Master of Science in Medical Education Program

Molly Johannessen, PhD, MS; Leslie Petasis, MA, MEd; and Mark Terrell, EdD, MS, MA
Lake Erie College of Osteopathic Medicine, Erie, PA



Introduction to the MSMEd Program

The program is designed to provide students with the knowledge, skills, and behaviors to lead, serve, and inspire the health-care community.

Significant education-related leaders, graduates have the knowledge, skills, and behaviors to lead the most innovative programs and issues in higher education and in clinical settings using through possession of real-world skills-based competencies in:



Needs & Rationale Analysis

Education is essential to helping patients not only through care, but through the diagnosis of their caregivers as well.

Changes are needed to care for patients not only through care, but through the diagnosis of their caregivers as well.

The success of today's health care providers depends a great deal on the quality and experience of the professor and practitioner who teach them. Therefore, LECOM frames their experience clinically or in the field of educational curriculum design and implementation. The program provides curriculum development expertise for those who will use it to improve medical education for years to come.

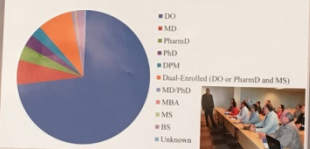
Additional and innovative distance education programs that programs have designed, planning professionals in a 2-year or non-accredited 1-year format.

Continued master's thesis projects in problem-based within the student's interest, visiting sponsored by faculty supports who teach, support, and guide students through the program.

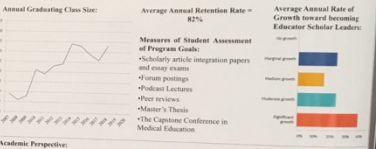
High-impact involvement in professional educational activities who can serve as role models for students.

There are 76 MSPE/Ed Ed programs available in 19 in North America.

Student Composition



Program Evaluation & Outcomes

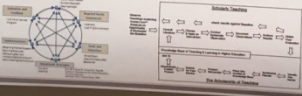


- ### Measures of Student Assessment of Program Goals:
- Scholarly article integration papers and essay exams
 - Forum postings
 - Podcast Lectures
 - Peer reviews
 - Master's Thesis
 - The Capstone Conference in Medical Education

Curriculum Map & Timeline

Year	Course	Prerequisites	Learning Objectives
Year 1	MSMEd 101: Introduction to Medical Education	None	Understand the role of the medical educator and the importance of the medical education program.
Year 1	MSMEd 102: Educational Theory	MSMEd 101	Understand the theoretical foundations of medical education and the role of the medical educator.
Year 1	MSMEd 103: Educational Practice	MSMEd 101	Understand the practical applications of medical education and the role of the medical educator.
Year 1	MSMEd 104: Curriculum Design	MSMEd 101	Understand the process of curriculum design and the role of the medical educator.
Year 1	MSMEd 105: Educational Research	MSMEd 101	Understand the process of educational research and the role of the medical educator.
Year 2	MSMEd 201: Educational Leadership	MSMEd 101	Understand the role of the medical educator as a leader and the importance of the medical education program.
Year 2	MSMEd 202: Educational Innovation	MSMEd 101	Understand the role of the medical educator as an innovator and the importance of the medical education program.
Year 2	MSMEd 203: Educational Impact	MSMEd 101	Understand the role of the medical educator as an impact maker and the importance of the medical education program.
Year 2	MSMEd 204: Educational Evaluation	MSMEd 101	Understand the role of the medical educator as an evaluator and the importance of the medical education program.
Year 2	MSMEd 205: Educational Reflection	MSMEd 101	Understand the role of the medical educator as a reflector and the importance of the medical education program.

The Masters Thesis Project options:



Academic Perspectives:

"A poor surgeon, hurts one patient at a time. A poor educator, hurts hundreds of patients at a time!" - Ernest Doyne

"Anyone with a responsibility for educating students, residents and physicians should be skilled and well-informed about society is a heavy responsibility."

Student Perspectives:

"The program is instrumental in developing me as an educator."

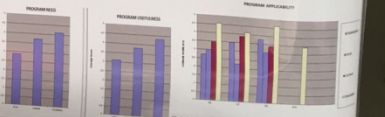
"The program was an additional credential that potentially helped my application for residency programs."

- ### Where are graduates headed?
- 257 graduates of the program have advanced leadership in healthcare education in a variety of ways:
- Chief Resident
 - Director of Medical Education
 - Clinical and Basic Science Faculty
 - Assistant Dean of Scholarship and Learning
 - Director of Curriculum
 - Dean of Pharmacy School
 - Associate Dean of Pharmacy School



Validity Testing

Validity is the degree to which items can easily and efficiently use an e-program to satisfy the goals and needs of learners and is assessed by analyzing user programs in need & applicability (Kowling, 2004).



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Level 4 - transformative
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Academy of Process Educators

Annual Assessment System Report 2017/2018

Over the last two years we have worked towards creating an assessment system for the Academy of Process Educators. While this system is a work in progress, we have continued to advance its development. Last year we developed the metrics we have used now to measure the performance for 2017/2018 academic year. This document is the formal report of this assessment. We hope the assessment system and annual assessment report will become one of the key traditions and best practices of the Academy. The Annual Assessment Report will be used to inform the operational planning process and be used for updating the strategic plan every three years. Following each area of assessment are recommended action steps that are intended to help elevate the level of performance to allow the Academy to improve.

This report is a celebration of what we have accomplished. It helps inform new member who we are; what do we do, and what are the opportunities for involvement in the coming year. This annual report is an initiative to help the Academy become stronger every year. As we use this in the operational planning session, think how you might further engage with the PE Academy.

Essential Information about the Academy of Process Educators

The Academy of Process Educators is a community of Practitioners and Scholars committed to advancing teaching/learning practice as well as generating, disseminating, and archiving research on Process Education.

The Academy is supported by its Process Educators members who welcome all faculty, educational researchers, professional developers, academic support professionals, and administrators (academic leaders) who want to advance the practice and research in Process Education for the benefit of current and future students and help improve their higher education institution.

The Academy of Process Educators is a non-profit (501c), which has no permanent staff and is structured around volunteer efforts. It models the practice of Process Education, supports its interdisciplinary, diverse, inclusive, and global community by mentoring new Process Educators, advancing practices in Process Education through its annual conference, sponsored professional development activities, and publication of scholarship through its International Journal of Process Education (IJPE).

Community

The PE Academy values synergy and strength generated via collaboration and communication with colleagues from a diverse array of disciplines, backgrounds, cultures, and perspectives working together to elevate learning and growth across many contexts.

Measurement of Community Strength

Attribute	Level 0 - absent	Level 1 - beginning	Level 2 - developing	Level 3 - sustainable	Level 4 - transformative
Vibrancy	An engaged, enthusiastic membership who meet spontaneously to work toward common goals	Little new activity; lack of clear community purpose	One or two initiatives engage folks across the community	Sporadic but infrequent activity from variety of members	Activities enjoyed by many members from multiple perspectives but common goals
Sustainability	Membership recruitment uses multiple mechanisms to reach multiple existing and new stakeholder groups	Advertising is only internal	Single promotional mechanism is developed to reach new audiences	A few recruitment mechanisms used to attract new members	Several mechanisms developed and used in multiple contexts
Equity	Members enact core values through intentional efforts and designed programs that develop mindset and abilities for each member to pursue their self-growth	Activities drive personal needs of the few, misalign with others	Checks are made to determine what members need for growth	Diversity of needs solicited and incorporated into major activities	Member values drive activity and incorporated into assessment for future action
Servant Leadership	Academy members stepping into leadership roles to meet these needs	Members receive mentoring, guidance and resources generated voluntarily from other members	No transfer of skills and knowledge across leadership	Support does not need to be solicited; members ask what others need	Combination of resources and mentoring available to support leadership roles

Recommended Action Items for 2018-2019

- Provide opportunities for 30 community members to play a significant role in the PE Conference Planning and Delivery - Produce an organizational chart of roles and transition and start recruiting these roles prior to and during the 2018 conference to solidify by end of conference (Vibrancy)
- Identify and deliver two key professional development events associated with the winter meeting and 2019 conference that engages over 100 participants (Vibrancy/Sustainability)

Growth

The PE Academy values transformational learning that positively impacts individuals and organizations and is sustained by ongoing reflection and assessment activities designed to produce measurable improvement in key areas of performance.

Measurement of Growth Culture

Attribute	Level 0 - absent	Level 1 - beginning	Level 2 - developing	Level 3 - sustainable	Level 4 - transformative
Assessment culture	Members of an assessment culture generate shared goals that are tied to measurable criteria which are pursued via frequent, honest, and high-quality feedback using positive, empathetic language leading toward future improvement.				
	Evaluative, negative, sporadic feedback stifles growth	Focus on improvement	Uses criteria	Frequent, ongoing assessment	Feedback integrates into practice
Proactive	The Academy actively controls its own destiny by focusing energy on activities motivated and initiated from within that are driven by our values, align with our vision, and boldly moving forward to accomplish its goals.				
	Reactive energy applied to external ideas	Member input solicited	New and established ideas mix naturally	Spontaneous individual member input influences group direction	Value driven actions erupt locally but connect and flow throughout Academy
Systematically assessed	A comprehensive annual program assessment system is centrally employed to integrate assessment across many types of activities and informs locally employed assessment of activities				
	Assessment is infrequent, and results rarely capitalized upon to improve performance	Activities frequently but individually assessed, and results only sporadically used to directly improve	Program assessment system uses and organizes results from different individual activity assessments	Program assessment system used, results document and reviewed	Fully deployed program assessment system closes the loop and accommodates new activity
Mentoring	Providing systematic mentoring for advancing PE Professionals in PE Practice, PE Research and Scholarship, Professional Development Training, and Leadership of Change				
	Random individual mentoring	Attempts at setting up some formal mentoring of new members	Systematic way of setting new members of the academy choose a mentor	Formalized Mentoring in research, PD, (PE practice and leadership	Mentoring is integrated into every activity and function of the academy

Recommended Action Items for 2018-2019

- Align assessment effort and operational planning with the annual assessment report (Systematically Assessed)
- Develop support mechanisms and, when appropriate, a succession plan for key roles (Proactive)

Performance

We value increasing and consistent production of high quality results developed through enriched learning environments built upon the dedication and integrity of the individuals involved and utilizing research-based practices supported by clear criteria and measurable outcomes.

Measurement of Academy Performances

Attribute	Level 0 - absent	Level 1 - beginning	Level 2 - developing	Level 3 - sustainable	Level 4 - transformative
Scholarly approach	Academy members use principles and theories underlying PE to inform a research-based approaches to improving practice and achieving high quality results				
	Performance uniformed by PE principles and practices	Uses accepted PE practices in performing work	Assesses performance based on research-based practices	Action research connected to best practices is used to elevate performance	Conduct formal research as part of improving quality of results achieved
Modeling key PE practices	Members model PE practice to conduct Academy business by implementing systematically designed activities which are carefully facilitated and assessed to elevate performance				
	Mono-directional content transmission model, no assessment	Facilitated activities used to supplement some Academy business, periodic assessment	Mixture of facilitated activity and content transmission, some assessment	Facilitated participatory activities drive key Academy work, regular assessment	Facilitated, outcomes driven, participatory-based activity model with integrated assessment based on clear criteria
Member Engagement	Members take it upon themselves to produce high quality results for the benefit of the Academy and to help others do the same				
	Members pursue personal rather than community agendas	Members take on new challenges when benefits to all are clear	Members freely help others in pursuing common goals	Members seek to benefit community through helping others achieve high quality results	Members empathize and support others in selfless service advancing entire community
Role oriented	Academy business is conducted by members serving in specific, challenging, performance-based roles that expand our professional capacity				
	Random, anarchic approach to completing tasks	Roles defined for some academy projects and activities	Use of roles actively contributes to Academy success	Work leads to documentable accomplishments	Role generates synergy

Recommended Action Items for 2018-2019

- Provide 5 defined research projects and ways to engage 10 members in at least one research effort during the 2018/2019 academic year (Scholarly Approach)
- Create a professional development community of bi-weekly workshops around the special edition targeting the involvement of 20 members in this collaboration (Modeling of Key PE Processes)
- Provide at least 50 activities/events for ongoing involvement by the Academy members (Member Engagement)
- Engage a conference planning team of 25 active contributors to its annual process (Member Engagement)
- Develop Performance criteria for the top 10 roles in the academy – By the end of this year create, assess and publish the top 5 performance criteria for the Past President; President; President-Elect, Treasurer, Secretary, Research Director; PE Conference Co-chairs; Professional Development Coordinator; Membership Chair; Finance Chair; Events Coordinator (Role Oriented)

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Anchoring and decision bias: A failure to disregard

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ABSTRACT

The current investigation examined the nature of the cognitive processes that underlie decision making behavior. The focus of this project centered on the phenomenological effects of heuristics that pertain to the availability of information stored in memory. Classic anchoring effects (Tversky and Kahneman, 1974) demonstrate that people will use any available information, despite the cost of response bias, as a reference for making decisions. The specific aim of Experiment 1 was to examine whether people exhibit similar patterns of behavior despite explicit notice of instruction to disregard the supplied information (the anchor). Experiment 2 delved further into the anchoring phenomenon using a paradigm identical to the one used in Experiment 1. In this re-examination, adjustments were made to the selection of stimuli, delivery of instruction, and an additional control group was added in order to bring clarity to open questions from the previous study. Across both experiments 1 and 2, participants failed to demonstrate an ability to disregard the anchor even when the instruction to do so was explicit. The results are discussed within the context of the availability heuristic and the directly related effects of anchoring. Implications are considered for our understanding of the role of cognitive biases in the decision process.

INTRODUCTION

- People rely on heuristics to assist inductive reasoning
 - Occasionally leads to errors that are central to drawing conclusions about the probability of an event
 - Regardless, people employ these strategies to reduce the complexity of making decisions
- People make judgments involving frequency information based on whatever they find in their memory search (Tversky and Kahneman, 1973)
 - As a result, systematic biases may corrupt the judgment process (Slovic, Fischhoff, and Lichtenstein, 1982)
 - Estimations of the frequency of an event are mediated by the subjective availability of probabilistic information stored in memory at the time of the assessment
 - When participants are asked to make numerical estimations of frequency after exposure to and consideration of an arbitrary value (the anchor), they tend to exhibit a biasing effect that is demonstrated by the relative closeness of participants' quantitative judgments to their condition-specific anchors (Tversky and Kahneman, 1974; Jacobowitz and Kahneman, 1995)

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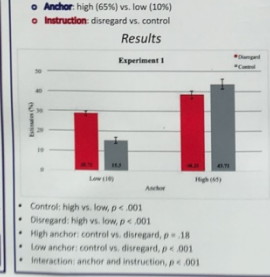
CURRENT RESEARCH

- The current investigation explored aspects of the aforementioned cognitive processes by examining the consequences of exposure to extraneous, misleading information, followed by explicit instruction to disregard it
- Will participants exhibit the classic anchoring effects even when instructions tell them to ignore the biasing information?
- Are participants more likely to disregard the available anchor if the anchor is relatively high or low?
- The overall goal of this research is to more fully understand the nature of anchoring biases and the cognitive processes that factor into decision making behavior

EXPERIMENT 1: METHOD

Design and Procedure

- Stimuli:
 - Experimentation consisted of a single-item questionnaire
 - Participants read the following: "We asked students at a local university to estimate the percentage of countries in the U.N. that are from Africa. The average estimate was 50% (or 65%). However, that estimate was too low (or too high) and it should be disregarded. What is your estimate? ____%"
- Four conditions:
 - Anchor: high (65%) vs. low (10%)
 - Instruction: disregard vs. control



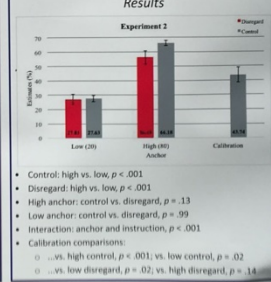
Conclusion

- Preliminary evidence that participants, even when explicitly instructed, do not disregard anchors when making estimates in the high anchor condition
- Anchors near the extremes (e.g., 10% facilitate larger drift?)
- For anchors far from ceiling or floor (e.g., 65%), attenuated disregarding?

EXPERIMENT 2: METHOD

Design and Procedure

- Stimuli:
 - Experimentation consisted of a single-item questionnaire
 - Participants read the following: "Two years ago in a major city, several new restaurants opened for business. We asked students at a local university to estimate the percentage of those new restaurants that are currently profitable. Their average estimate was 20% (or 80%). However, that estimate was wrong and it should be disregarded. What is your estimate? ____%"
- Five conditions:
 - Anchor: high (80%) vs. low (20%)
 - Instruction: disregard vs. control
 - Calibration (no anchor, no instruction to disregard)



Conclusion

- Support for the notion that participants, even when explicitly instructed, do not disregard anchors when making estimates
- Observed pattern of results in Experiments 1 and 2 may be different due to relative proximity of anchors to maxima (i.e., 10% is closer to floor than 65% is to ceiling; 80% is equivalently close to ceiling as 20% is to floor)

Future Research

- Will people anchor to estimates involving moral judgment?
- What are the mechanisms that allow decision making to have such flexibility while providing a stable basis for deciding?

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THE ARDUOUS JOURNEY FOR ACHIEVING EQUITY IN SPECIAL EDUCATION

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What is Equity in Special Education?

Legal Goal of Movement

Time Spent

Identification of Students with Disabilities

Without: Racial or Ethnic Disparities

Placement of Students with Disabilities in LRE

How does it impact underserved populations?

Disproportionality
Overrepresentation

Why is it important?

All students are entitled to a Free and Appropriate Public Education with:

- Equal Access according to law
- Culturally Responsive Assessment, Eligibility Determination and Placement
- Reduction in Achievement Gaps

Learning to Learn with a Large Lecture Course: Supplemental L2L Workshops

Ingrid Ulbrich
Colorado State University

I couldn't fit Learning to Learn into class...

Course Structure

- General Chemistry, for STEM majors
- 4 "lecture" sections of 150-250 students, that meet 50 minutes 3x per week
- 3 instructors
- Common syllabus, text, homework, exams, evaluation system

...so I created Supplemental Instruction Workshops!

Workshop Series

- Focused each workshop on one of 10 methodologies from Learning to Learn: *Becoming a Self-Direr*
- Designed a 90-minute workshop on that methodology that employs Process Education
- Offered in evenings, at times that I chose

But I didn't sell it as a Methodology Workshop...

Methodology

Learning Process Methodology
Reading Methodology
Planning Methodology
Preparation Methodology
Performance Methodology

Workshop Title

Getting Real Learning from ALEKS
Reading for Learning
Mastering Time Management and Planning
Exam Preparation
Managing Anxiety

Methodology

Assessment Methodology
Life Vision
Elevating Knowledge Methodology
Problem Solving Methodology

Workshop Title

Analyzing Test Results Assessment
Why am I here? Creating a Life Vision
Elevating Critical Thinking Questions
Problem Solving with hard Chemistry Problems

