



7-2014

2013-2014 Annual Report

CETL

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CENTER FOR
EXCELLENCE IN
TEACHING & LEARNING

Kettering University

**Annual Report
2013 – 2014 Academic Year
Submitted July 8, 2014**

“We are all teachers all the time”

CETL website: <http://www.kettering.edu/cetl>



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Cover photo:

CETL Director: Prof. Terri Lynch-Caris

FYE Coordinator: Ms. Shari Luck

CETL Administrative Assistant: Ms. Cindy Donner

ASC/CCUE/CETL Shared Administrative Assistant: Ms. Nannette Randolph

I. Overview

a. Introductory Words from the Director

As Director for the Center for Excellence in Teaching and Learning (CETL), it is my pleasure to present this annual report. As you read this report, consider the many hours that have been spent by amazing faculty and staff to educate the next generation of scientists, engineers, mathematicians and business people. Thank you to my colleagues for your collaboration and ongoing efforts on campus. Special thanks to Cindy Donner for keeping track of CETL data and drafting this report.

Some highlights of 2013-14:

Ongoing Multidisciplinary Events The CETL Collaboration Room hosts informal and formal discussions between faculty and staff from across the campus. *Tuesday Teaching Talks* sustain the discussion with varying themes each term. The fall theme of “Setting the Foundation for Learning” and winter theme of “Improving on Excellence” have brought together like-minded faculty and staff for positive discussion. After having Dr. José Bowen on campus, the spring theme was established as “Utilizing Instructional Technology.” The collaboration with the Provost Office to promote the Distinguished Faculty Speaker Series continues to be popular. The team-taught course *KETT540 Environmentally Conscious Design* provides an online, senior-level and graduate elective to all disciplines.

Quad Pod Collaborations The four Quad Pod campuses - Kettering, Baker College, University of Michigan-Flint, and Mott Community College – continue to collaborate for professional development. This Quad-POD consortium brought author, Dr. José Bowen, to Flint on January 22-24 to discuss his book *Teaching Naked* following book club discussions on campus. The book was widely distributed across campus and serves as a reference for improving teaching utilizing intentional design and relevant technology.

First Year Experience (FYE) The new course *FYE101 First Year Foundations* was offered for the first time in Summer and Fall 2013 for A and B section students. The course was approved by the faculty members of the CETL Advisory Board serving as a department curriculum committee for multidisciplinary classes, University Curriculum Committee, Faculty Senate and university administration. The revamped syllabus is designed to promote discussion in small groups of first-year students with a partially flipped classroom and online resources. A faculty or full-time staff member leads each class section with an upper-class peer mentor. The FYE Working Group was instrumental in the development of course learning outcomes and a textbook *Thriving in College and Beyond* was adopted. Shari Luck has done an outstanding job of coordinating the course and improving the freshmen experience.

Looking ahead Many of the CETL on-campus professional development programs will continue with a vision to develop respectful collaborations across campus to build a culture of ethics and promote deep learning among our students. Collaborations related to increasing student retention must be a priority. New online courses will be developed in 2014-15 as a result of the Course Design Proposals received by innovative faculty members. External resources can be invaluable to promote excellence in teaching and learning. Thus, consider becoming active in the American Society of Engineering Education and utilizing the CETL subscription to the Wiley Learning Institute for 24/7 online professional development.

In closing, I welcome your input on this CETL 2013-14 Annual Report.

Respectfully submitted by,
Dr. Terri Lynch-Caris, CETL Director and Prof. of Industrial Engineering



I. Overview

b. CETL Organization and Advisory Board

Organizational Structure. CETL personnel reporting through the Provost Office:

- (1) Terri Lynch-Caris, CETL Director with a half-time faculty appointment
- (2) Shari Luck, First Year Experience (FYE) Coordinator
- (3) Cindy Donner, part time administrative assistant
- (4) Nannette Randolph, shared administrative assistant (with ASC and CCUE)
- (5) CETL advisory board consisting of faculty, staff and student representatives to provide vision and focus, carry out CETL projects and be actively involved in CETL
- (6) Rotating work-study students, carefully selected to enable project advancement

The primary objective of the CETL Advisory Board is to assist the CETL Director in improving the learning environment at Kettering University. CETL's Advisory Board members share an interest in Higher Education both inside and outside the Kettering campus. Members serve voluntarily. Interested constituents are encouraged to contact the director to fill rotating vacancies and changing needs of the university.

The Advisory Board for the Academic Year 2013-14 (shown in photo):

- Prof. Karen Cayo, Department of Business
- Ms. Cindy Donner, CETL Administrative Assistant
- Ms. Caroline Ethington, Cooperative Education
- Prof. Jim Huggins, Computer Science Department
- Ms. Shari Luck, CETL First Year Experience
- Prof. Dan Ludwigsen, Physics Department
- Prof. Mark Palmer, IME Department
- Mr. Todd Steele, Graduate Studies Office
- Prof. Laura Sullivan, ME Department
- Prof. Mo Torfeh, ECE Department, KEEN/I2E representative
- Prof. Lihua Wang, Chemistry Department
- Mr. Dale Weighill, Executive Dean of Professional Development & Experiential Learning –
Mott Community College
- A-Section students - Academic Council representative and Work Study Students
- B-Section students - Academic Council representative and Work Study Students

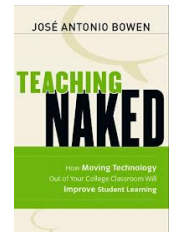


Six Advisory Board Meetings were held during the 2013-14 academic year:

<u>Summer 2013</u>	<u>Fall 2013</u>	<u>Winter 2014</u>	<u>Spring 2014</u>
September 12 7 attendees	November 13 13 attendees	January 30 9 attendees	April 7 11 attendees
		March 28 9 attendees	May 1 15 attendees

II. Collaborative Events

a. Quad-POD: *Teaching Naked* - Events



The book, *Teaching Naked*, by José Antonio Bowen, was distributed in summer 2013 as a gift to all full-time Kettering faculty members (and others upon request). We are privileged to have interacted with José Antonio Bowen during three events held January 22-23, 2014 on the Quad Pod campuses:

- Kettering campus workshop: *Flipping 101: Easy Tech for Better Prep and Rethinking Class Time* - Attended by approximately 40 Kettering faculty members
- Quad-Pod Dinner at UM-Flint - Attended by approximately 90 faculty and staff from Kettering, UM-Flint, Mott, Baker and guests
- Quad-Pod Leadership Breakfast at Mott - Attended by 36 academic leaders from Kettering, UM-Flint, Baker and Mott

Kettering campus workshop

Dr. Bowen discussed the flipped classroom and what can be done at Kettering University to implement these ideas. José Bowen explained how technology is profoundly changing education and that colleges will need to provide more than what can be found online and maximize "naked" face-to-face contact. In his workshop he discussed how technology is most powerfully used outside the classroom and when used effectively, how it can ensure that students arrive to class more prepared for meaningful interaction with faculty. Through the hands-on use of laptops and mobile phones, Dr. Bowen shared with the faculty and staff many useful web sites that can be used to improve their teaching.

Quad-Pod dinner at UM-Flint

The dinner at UM-Flint was attended by over 90 faculty and staff from Kettering University, UM-Flint, Baker College and Mott Community College. The topic for the evening was *Teaching Naked: How Moving Technology out of your College Classroom will Improve Student Learning*.

Quad-Pod Leadership Breakfast at U of M

Leaders from Kettering University, UM-Flint, Baker College and Mott Community College came together for a breakfast discussion on the leadership required to implement Strategies for Universities of the Future. All academic department heads were invited from Kettering University along with President McMahan, Provost Simpson and Associate Provost Jackie El-Sayed. The Kettering academic leadership joined the other Quad Pod leaders for Community Engagement promoting the vitality of Flint academic institutions.

After the event, Dr. Robert Simpson, Kettering Provost stated, "José Bowen's engaging presentation at the Leadership Breakfast stressed the importance of creating learning environments that engage students, validating CETL's efforts to develop a culture of active learning on our campus."



Follow-up events

A workshop at Mott Community College (June 9th, 2014) was attended by the Quad Pod Leaders with José Bowen returning to Flint. A fall 2014 event is being planned to disseminate implementations.

Photo of Quad Pod Representatives: Jan Worth-Nelson (UM-Flint) Dale Weighill (Mott) and Terri Lynch-Caris (Kettering) at the Lily Teaching Conference in Fall 2013. Missing from Picture is Candace Johnson (Baker).

II. Collaborative Events

a. Quad-POD: *Teaching Naked* - Fall 2013 Book Club



The book, *Teaching Naked*, by José Antonio Bowen, was distributed in summer 2013. A Book Club met in the CETL Collaboration Room during lunch to prepare for the visit by the author. The following synopsis written by Book Club Leader and librarian, Dawn Olmsted Swanson, provides insights into the faculty response to the events.

José Bowen has written a book that inverts the traditional methods of classroom teaching, moving away from solely lecture-based presentations and using technology (podcasts, online games) so that students have the material to study and review before they come to class. As a result, students come to class prepared to work together as teams and for interaction with the professor who serves as a coach or team leader. Bowen uses a gaming style in the classroom where students can earn points as they progress during the term.

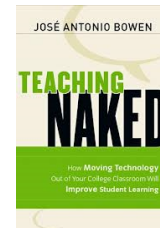
Several faculty attended the book club meetings and they liked the ideas that were presented in the book. However, they feel that the Provost and President will have to get behind this idea in order to make it work. If we are going to get away from the style of teaching that relies on lecturing, then we will need to spend money and provide time for faculty to recreate a new format to use while teaching.

The following issues were mentioned by those who attended the *Teaching Naked* book club during the three sessions that met during the months of October, November and December 2013.

- *José Bowen states in Chapter 9 that at some point, free courses from Yale or MIT will start to count toward degrees; or employers will realize the value is in the learning, and not the degree; in which case the Internet will be a real source of competition. Universities will need to find a niche to fill to compete against this. Faculty feel that Kettering has this niche with our co-op. We need to find a way to make more people aware of what we offer. How do we accomplish this?*
- *The book often talks about online classes. Students like online classes, but not totally online. They like interaction with faculty and students as well. Kettering currently offers very few online classes. Faculty feel this is something we need to change. We need to offer classes to students while they are on their co-op term. This is something that many students ask for.*
- *We want to find a way to attract more International Students. We have a lot to offer these students and they have the resources to make this lucrative for themselves as well as for us. How do we get more International Students to apply and come to Kettering?*
- *We need to find ways to incorporate transparent technology into the classrooms. Don't just show movies during class. Don't just lecture during class. Use a flipped classroom method where movies are watched outside of class and class time is spent in discussion and problem solving.*
- *Tuition is something that may scare potential students away. A long wait to see whether or not a student is accepted may turn some students away. We discount tuition but prospective students are not aware of this. What is the best method to attract students and help them to realize the value they are getting for their money? What makes Kettering worth the money to attend versus cheaper colleges?*
- *We need to create a shared sense of mission about teaching between administration, faculty and students. Everyone will have to work together to accomplish this. Faculty value students and care about what they are learning. They want to do what is best for the students to get the education they deserve and make it easiest for them to learn, but they need administration's support to make this happen.*
- *We can't run things as business as usual. We have to turn things inside out in certain classes to make this work. We need to use available technology to create new and better teaching methods. The Faculty would like to see many of the ideas mentioned in this book brought to fruition here at Kettering University.*

II. Collaborative Events

a. Quad-POD: *Teaching Naked* - Assessment of Author Visit: José Bowen



These responses are from the survey administered by UofM-Flint and sent to all faculty at Kettering University, UofM-Flint, Mott Community College and Baker.

Please indicate which of the following describes your involvement with José Bowen and his book, <i>Teaching Naked</i> ? (check all that apply) n=48		
	Response	%
I read the book, <i>Teaching Naked</i>	27	56%
I watched the webinar on <i>Teaching Naked</i>	8	17%
I participated in the book club or book talk sessions on <i>Teaching Naked</i>	9	19%
I attended the Flipping 101 workshop held at my institution, facilitated by Dr. Bowen	28	58%
I attended the Quad-Pod dinner, Thursday, January 23, featuring a keynote by Dr. Bowen	44	92%
I attended the Leadership Breakfast, Thursday, January 23	11	23%
Other interaction	8	17%

Please rate the following:						
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses
Dr. Bowen was an effective presenter	1	0	3	7	34	45
Dr. Bowen is a credible scholar	1	0	4	9	31	45
Dr. Bowen's presentation was very engaging.	1	0	4	5	34	44

Please rate the following:						
	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses
This event provided the opportunity for me to share with my colleagues.	1	1	8	15	20	45
I appreciated the opportunity to engage with faculty from other institutions.	1	1	9	9	25	45

Will you use the information shared to enhance or improve your own classroom delivery to your students this year? n=45		
	Response	%
Definitely will	29	64%
Probably will	11	24%
Don't know	5	11%
Probably will not	0	0%
Definitely will not	0	0%

II. Collaborative Events

b. Invited Guest Speakers

In order to provide an environment of teaching and learning excellence, outside experts are often called upon to share wisdom and insights. In addition to our Distinguished Faculty Speakers, the following external speakers came to campus on behalf of CETL. These events are attended by faculty, staff and students for shared learning.



Photo: Dr. Nathan Klingbeil, professor of mechanical engineering and Dean of the College of Engineering and Computer Science at Wright State University.

Date	Speaker and Description	# of attendees # of respondents	Survey Topics	Survey Summary % Agree
September 23, 2013	Dr. Nathan Klingbeil – “Engineering Math Applications”	47/24	Value Engagement Content Benefit Quality	96% 100% 92% 100% 97%
October 10, 2013	Amanda Lambert, MA, LLPC of Ulliance – “Dealing with Students with Disabilities”	27/13	Value Engagement Content Benefit Quality	86% 93% 86% 93% 93%
October 21, 2013	Dave Anderson, American Iron and Steel Industry and The Automotive Steel Consortium – “Modern Steel Technology”	72		Survey not administered
November 13, 2013	Innovative Educators webinar to assist us in achieving success in our work with multicultural populations and students of color, as well as students from other diverse backgrounds. Led by Carol Brooks, Academic Success Center in Collaboration with the Office of Multicultural Student Initiatives.	18		Survey not administered
November 13, 2013	Dr. Doug Melton, KEEN Program Director – “What if you replaced a car’s muffler with an integrated circuit? and other Adventures in Engineering and Business”	68/33	Value Engagement Content Benefit Quality	97% 100% 100% 100% 100%
February 20, 2014	Dave Anderson, American Iron and Steel Industry and The Automotive Steel Consortium – “Modern Steel Technology”	48/30	Value Engagement Content Benefit Quality	97% 80% 93% 80% 93%

II. Collaborative Events

c. Distinguished Faculty Speaker Series

The Provost has institutionalized this popular faculty speaker series by requesting that a faculty representative from each department prepare and deliver a talk regarding their research. Educational Innovators have been added to the lineup. The Provost Office provides lunch to the first 100 people to arrive at each presentation and the room continues to be full for each session. Most distinguished speakers agreed to be video-recorded with an archive on the CETL website.

Distinguished Faculty Speakers during 2013-14 Academic Year:

Dr. Massoud Tavakoli, ME & KEEN/EAU, “KEEN Innovation to Entrepreneurship Scholar Program” (8/15/13)

Dr. Raghu Echempati, Professor of Mechanical Engineering, “Statics Concepts Inventory: Experiences and Outcomes from the NSF-CCLI Awards” (10/29/13)

Dr. Yoamin Dong, Professor of Mechanical Engineering, “Engaging Engineering Students by Improving their Spatial Visualization Skills” (11/7/13)

Dr. Richard Stanley, Professor of Mechanical Engineering, “Flipping the Dynamics Classroom” (12/5/13)

Dr. Chuck White, Professor of Manufacturing Engineering, Graduate Faculty, Industrial Engineering, “Engineering Licensure: From Point A to P.E.” (12/12/13)

Dr. James Gover, Professor Emeritus Electrical and Computer Engineering, “Innovation, R&D and Entrepreneurs” (2/6/14)

Dr. Gianfranco DiGiuseppe, Professor of Mechanical Engineering, “Solid Oxide Fuel Cells: A Technology Overview and Applications” (2/27/14)

Dr. Matthew Sanders, Professor of Industrial Engineering, “CCUE: Engaging in the Students’ Transition to Professional Status” (3/13/14)

Dr. Juan Pimemtel, Professor of Computer Engineering, “The Internet of Things: Issues and Opportunities” (4/24/14)

Dr. Thomas Ngniadedema, Assistant Professor of Business, “Selective Strategies in Customized Goods and Services” (5/8/14)

Dr. Robert Simpson, Provost, “Stomping Through the Swamp” (6/5/14)



Photo: Prof. Thomas Ngniadedema,
Assistant Professor of Business

II. Collaborative Events

c. Distinguished Faculty Speaker Series

History with video archives on CETL website

Photo: Prof. Steven Nartker,
Assistant Professor of
Chemical Engineering



Distinguished Faculty Speakers during 2011-12 Academic Year:

Dr. William (Bill) Riffe, IME Dept., "The Many Hats of a Professor" (12/2/11)
 Dr. Ezekiel Gebissa, Liberal Studies Dept., "Turning East: Reflections on China's Rise." (2/9/12)
 Dr. Kevin Bai, ECE Dept., "Power Electronics Solution for Hybrid Electric Vehicles and Renewable Energy." (2/23/12)
 Dr. Steven Nartker, Chem/Biochem/ChemEng, and Dr. Jennifer Aurandt, Chem/Biochem, "Biogas Production and Separation." (3/8/12)
 Dr. Pat Atkinson, ME Dept, "Bioengineering and You." (4/26/12)
 Dr. Corniel Rablau, Physics Dept, "Photonics and Nanotechnology: Enabling Technologies of the 21st Century." (5/3/12)
 Dr. Boyan Dimitrov, Math Dept, "Longer Life Through Math?" (5/10/12)
 Prof. Larry Navarre, Dept of Busn, "Supply Chain Mgmt: The Beer Game" (5/31/12)
 Dr. Doug Melton, ECE/KEEN, "If Opportunity Doesn't Knock, Build a Door" (6/7/12)

Distinguished Faculty Speakers during 2012-13 Academic Year:

Dr. Montserrat Rabago-Smith, Chemistry, "Research in the Frontier of Chemistry and Biology" (8/9/12)
 Dr. Jeff Hargrove, ME Dept, "Current Understandings and Research in Treating Chronic Central Pain" (9/6/12)
 Dr. Jonathan Wenzel, Chemical Eng., "Green Production of Chemicals using High Pressure Fluids in Pilot Plants." (10/18/12)
 Dr. Basem Alzahabi, International Programs and ME, "The Anatomy of the Syrian Revolution" (11/1/12)
 Dr. Michael Callahan, Liberal Studies, "Learning About Cheating or: How I Became an Ethics Teacher and So Did You" (11/15/12)
 Dr. Lihua Wang, Chemistry, "Metals in Medicine" (11/29/12)
 Dr. Hodayun Navaz, ME, "Research Interest in Strategic Defense" (1/31/13)
 Dr. Massoud Tavakoli, ME & KEEN/EAU, "Entrepreneurship Across the University...Why?" (2/28/13)
 Dr. Huseyin Hiziroglu, ECE, "Electrical Breakdown of Dielectric Materials" (4/30/13)
 Dr. Laura Sullivan, ME, "Humanitarian Aid Engineering: Problem Solving Without a Textbook" (5/9/13)
 Dr. Bahram Roughani, Physics, Educational Innovator, "Innovations in Higher Education: A Voyage and Reflection" (5/28/13)
 Dr. Lucy King, IME, "Stay Ahead of the Game" (5/30/13)
 Dr. W.L. Scheller, IME, "Working Together: Interdisciplinary and Faculty/Student Relationships at Kettering University" (6/11/13)

#	Distinguished Faculty Speaker Assessment Summary* Approx. Attendance=621 (July '13-June '14)	# of respondents	% of respondents	Response
1.	Value: This event was valuable.	280 20 8	91% 6% 3%	Agree No Opinion Disagree
2.	Engagement: I was satisfied with the information and what I learned during this event.	248 43 14	81% 14% 5%	Agree No Opinion Disagree
3.	Content: The material covered is useful for academic/ professional growth.	277 22 7	91% 7% 2%	Agree No Opinion Disagree
4.	Benefit: I would like to attend this or a similar event again.	272 26 9	89% 8% 3%	Agree No Opinion Disagree
5.	Quality: I would recommend this event to colleagues.	268 29 9	89% 8% 3%	Agree No Opinion Disagree

* Note: This is a mixture of students, faculty, staff and guests in attendance.

II. Collaborative Events

d. Student/Faculty Forums

The Academic Council works collaboratively with CETL to bring students and faculty together for honest discussion and provide an opportunity for students and faculty to ask questions. The main focus of these forums was *Building Ethics into the Culture of the University*, the response was positive as shown below.

#	"Learning Styles" Attendance = 34 (September 11, 2013)	# of respondents	% of respondents	Response
1.	Value: This event was valuable.	20 1 2	86.96% 4.34% 8.70%	Agree No Opinion Disagree
2.	Engagement: I was satisfied with the information and what I learned during this event.	20 2 1	86.96% 8.70% 4.34%	Agree No Opinion Disagree
3.	Content: The material covered is useful for academic/ professional growth.	18 2 3	78.26% 8.70% 13.04%	Agree No Opinion Disagree
4.	Benefit: I would like to attend this or a similar event again.	20 3 0	86.96% 13.04% 0%	Agree No Opinion Disagree
5.	Quality: I would recommend this event to colleagues.	18 5 0	78.26% 21.74% 0%	Agree No Opinion Disagree

#	"Ethics on Campus" Attendance = 31 (January 28, 2014)	# of respondents	% of respondents	Response
1.	Value: This event was valuable.	29 3 0	90.63% 9.38% 0.00%	Agree No Opinion Disagree
2.	Engagement: I was satisfied with the information and what I learned during this event.	31 2 0	93.94% 6.06% 0.00%	Agree No Opinion Disagree
3.	Content: The material covered is useful for academic/ professional growth.	29 4 0	87.88% 12.12% 0.00%	Agree No Opinion Disagree
4.	Benefit: I would like to attend this or a similar event again.	32 0 1	96.97% 0.00% 3.03%	Agree No Opinion Disagree
5.	Quality: I would recommend this event to colleagues.	30 0 3	90.91% 0.00% 9.09%	Agree No Opinion Disagree

#	"Ethics on Campus" Attendance = 76 (May 21, 2014)	# of respondents	% of respondents	Response
1.	Value: This event was valuable.	38 3 0	92.68% 7.32% 0.00%	Agree No Opinion Disagree
2.	Engagement: I was satisfied with the information and what I learned during this event.	38 3 0	92.68% 7.32% 0.00%	Agree No Opinion Disagree
3.	Content: The material covered is useful for academic/ professional growth.	36 5 0	87.80% 12.20% 0.00%	Agree No Opinion Disagree
4.	Benefit: I would like to attend this or a similar event again.	33 6 0	80.49% 14.63% 0.00%	Agree No Opinion Disagree
5.	Quality: I would recommend this event to colleagues.	35 6 0	85.37% 14.63% 0.00%	Agree No Opinion Disagree

III. First Year Experience (FYE)

a. FYE101 - Overview and Assessment

FYE101 - Overview

This initiative exists to provide incoming students with a Sense of Belonging to Kettering University. *FYE101 – First Year Foundations* replaced the previous orientation course *ORTN101 – Learning, Teamwork and Success*. FYE101 was offered for the first time in summer/fall 2013 with over 450 first-year students in 33 different sections. In the new FYE101 instructional model, classes meet for one hour per week, sections are limited to 15 first year students, each section is facilitated by a full-time faculty or staff member and supported by an upper-class peer mentor. FYE Coordinator, Shari Luck, facilitates all instructors and peer mentors, leads a working group to design and continuously improve the FYE and reports to the CETL Director.



Photo: Ms. Shari Luck will report through CETL to focus on FYE

FYE 101 - Assessment

Formative Assessment from Instructors and Peer Mentors in the Summer 2013, n=56

Learning Outcome	Agree	No Opinion	Disagree
Sense of Belonging	92%	7%	1%
Self-Governance	86%	14%	0
Community	70%	29%	1%
Critical Thinking	73%	26%	1%

In the Fall of 2013, we asked for more specific comments from instructors & peer mentors, and asked for more direct comparisons to the former ORTN 101 to the new FYE 101 course. Below are the results from Peer Mentors from weeks 1-5 (the first half of the term) of 9 respondents:

Learning Outcome	Agree	No Opinion	Disagree
Sense of Belonging	89%	11%	0
Self-Governance	100%	0	0
Community	67%	22%	11%
Critical Thinking	78%	22%	0

Specific comments to the above results were as follows:

- The class discussions allow students to feel connected to each other and KU.
- They are forced to learn about how campus operates.
- I feel like everyone starts to belong to the group and it's encouraging to see them hang out together outside of class.
- Students seem to connect with one another and enjoy participating in class discussions.
- The small class size makes it easier for the class to be engaged.
- Students are more aware of resources available to them and seem to be more capable of accessing them.
- I learned some new resources too!
- We made a "campus cruise" scavenger hunt for all of the students to fill out.
- The resources/videos on Blackboard seem to be going well with students. Some seem to find the book is unnecessary or obvious.

- Resources were described. Whether or not the students listened or will use the resources is unknown.
- There could be more activities to different areas in the community or on campus.
- Yes, the community within the FYE class!
- There is a small amount of bonding as a class community.
- The class discussions have immensely improved the critical thinking aspect of the class and is the biggest improvement thus far.
- Leading class discussion gives the student a deeper understanding of the material.
- It's a little difficult to get them to go deeper than the superficial topics and questions.
- Not everything is very engaging, a lot of just talking.
- Most reflection questions require some thinking.

Comparing ORTN 101 and FYE 101:

- More engaging.
- I think this is the first improvement of many from ORTN 101.
- I really prefer the FYE class to ORTN. Great job!
- Students pay more attention.
- Good use of Blackboard.
- There is more participation.
- Smaller class sizes do well to encourage engagement.
- Relevant information is discussed while getting to know each other.
- I feel like I can connect with students better.

Photo: FYE101 students paint the Bulldog



Summative Assessment - End of Class student evaluations

Summer 2013 n=165 Desired Learning Outcome	Agree	No Opinion	Disagree
... giving students a Sense of Belonging	79%	17%	4%
... providing opportunities for Self Governances by identifying and describing university resources	81%	15%	4%
... giving students a sense of Community by interacting in campus, community and employer events	63%	25%	12%
... modeling Critical Thinking by engaging in class discussion, investigations, and reflective exercises	75%	16%	9%

Fall 2013 n = 175 Desired Learning Outcome	Agree	No Opinion	Disagree
... giving students a Sense of Belonging	83%	14%	3%
... providing opportunities for Self Governances by identifying and describing university resources	91%	8%	1%
... giving students a sense of Community by interacting in campus, community and employer events	74%	21%	5%
... modeling Critical Thinking by engaging in class discussion, investigations, and reflective exercises	74%	19%	7%

Summer/Fall 2013 - Comments from first-year students with regard to the above responses

- Enjoyed painting the bulldog
- Engaging/got to meet peers and develop better communication skills
- Entire staff is excellent at treating students like family
- Appreciated the discussion style
- Helped to an extreme degree
- Lots of opportunities for extra help
- Enjoyed forced interaction with faculty
- The instructor/peer mentor read off activities in the community weekly
- Helped me introduce myself to others
- I grew significantly from FYE

Best part:

- I enjoyed getting to know and communicating with others
- Getting advice from peer mentor
- The openness of the instructor and mentor, they were awesome and caring people
- Making the students present and holding them accountable
- Class activity
- Learning about academic advising
- Learning about registration
- The activities (pumpkin carving, blanket) were the best

Ideas for improvement:

- No book
- Less reading
- No homework
- More KU specific text
- More activity, less discussion
- More community involvement
- Tour the buildings

Highlights from IDEA Center Evaluation Comments:

- I really enjoyed the class discussions held in class. I thought that the student-instructor interaction in this class was better than all my other classes this term.
- Class is very informational and a good class to have for all freshmen. I love how our class is very laid back and we discuss the homework material as well as other topics that students may have questions about. The teacher is always helpful in giving advice or places to get better feedback.
- This course did an excellent job of informing me of the resources provided by Kettering to help me. This course could have been a waste of time, but the instructor and peer mentor made it very helpful by keeping it organized and offering relevant advice.
- Great first year class to have, it helps you learn about all the great resources here at Kettering.
- Great professor that got all students involved in class discussion and helped us.

III. First Year Experience (FYE)

b. Tuesday Teaching Talks - Focus on First Year Foundations

The First Year Experience initiative began with the reorganization of Shari Luck to report through the CETL Office in 2012. The revamping of the *ORTN101 – Learning, Teamwork and Success* course prompted research, discussions and action to create the *FYE101- First Year Foundations* course. The FYE Working Group contributed a great deal of input to the process and the FYE Conference attendance was profoundly influential in designing the new course. The new FYE101 course was reviewed and approved through the formal university process by the CETL Advisory Board*, University Curriculum Committee, Faculty Senate and university administration.

The course was first offered in summer term 2013 with formative assessment throughout the term as shown in the matrix below. The Brown Bag theme “Foundations of Excellence” continued to influence and improve the FYE101 syllabus and course design. The FYE101 course culminated with an offsite dinner celebration and summative assessment for all instructors, peer mentors and special guests.

Date and topic – on-campus informal lunch discussions	Attending
7/16/13 FYE101 Formative Assessment – week 1	11
7/23/13 FYE101 Formative Assessment – week 2	14
7/30/13 FYE101 Formative Assessment – week 3	12
8/6/13 FYE101 Formative Assessment – week 4	10
8/20/13 FYE101 Formative Assessment – week 5	16
8/27/13 FYE101 Formative Assessment – week 6	19
9/3/13 FYE101 Formative Assessment - week 7	8
9/10/13 FYE101 Formative Assessment – week 8	9
9/17/13 FYE101 Formative Assessment – week 9/10	9
9/25/13 FYE101 Fall 2013 Training Workshop	12
10/22/13 FYE101 Getting Started with First Year Students	11
11/12/13 FYE101 Midterm Feedback	8
12/3/13 FYE101 Wrap up and lessons learned	9
4/28/14 FYE101 Instructor’s Meeting	12
6/9/14 FYE101 Summer Instructor’s Meeting	9
Total Faculty/Staff hours (July – June)	169

* Note that the faculty members on the CETL Advisory Board serve as a Departmental Curriculum Committee for multidisciplinary courses.



Photo: FYE101 Peer Mentors with Ms. Shari Luck

IV. Professional Development and Support

a. Teaching Circles

The focus of a teaching circle is to consistently bring together like-minded faculty, staff and students for a common goal. In general, teaching circles explore new teaching techniques that faculty are using in their classrooms to find innovative methods of teaching, such as flipped classrooms and project based classrooms. The goal of the teaching circle is to expose and promote innovative teaching practices for faculty members and to explore how these opportunities can be funded.

The Innovation to Entrepreneurship (I2E) Teaching Circle shared information about KEEN Topical grant opportunities for bringing I2E into the classroom. Faculty members could share their ideas and experiences for continuous improvement. Support and encouragement of the KEEN ideals was encouraged through the application of grant funds.

The Innovation to Entrepreneurship initiative is led by Massoud Tavakoli and Mo Torfeh.

Date	Speaker	attendees
7/26/13	Mo Torfeh	21
8/22/13	Larry Navarre and Art Demonte	22
9/13/13	Pat Atkinson	13
10/17/13	Dan Ludwigson	16
10/31/13	Gianfranco DiGiuseppe	30
12/6/13	Open Discussion	15
2/11/14	Mo Torfeh	19
3/4/14	Kristina Kamensky	24
4/29/14	Open Discussion	32
5/29/14	Mo Torfeh and Massoud Tavakoli	33
	TOTAL	225



Photo: Prof. Mo Torfeh leads the I2E Teaching Circle faculty discussion

Innovation to Entrepreneurship (I2E) Course of Study

Kettering University's focus on Innovation to Entrepreneurship gives students the skills and knowledge needed to start new business ventures (entrepreneurship) and to create innovative new products and services in existing firms (intrapreneurship). The program comes in response to a growing interest among students in technology focused universities to turn new technology into for-profit and non-profit enterprises. The emphasis of intrapreneurship is important to our co-operative partners where students understand their value proposition to a larger company.

Innovation-to-Entrepreneurship Course of Study (i2e-CS) is an 18-credit elective sequence developed to ensure that students receive, in an immersion style, academic and practical exposure to innovation and entrepreneurship mindset. The new INEN courses and overall program were reviewed and approved through the formal university process by the CETL Advisory Board*, University Curriculum Committee, Faculty Senate and university administration. FYE101 sets the foundation for innovative learning and the i2e-CS immerses the students for a portion of their academic term every term from freshmen through senior year. The first course INEN101 course was offered in Winter term 2014.

The course of study also complements extra curricular activities on campus and the University's efforts to support new business creation in mid-Michigan. The course sequence includes:

- FYE101 - First Year Foundations
- INEN101 - Innovation & E-ship mindset
- INEN201 - Innovation & E-ship Care Studies
- INEN202 - Innovative Idea Development
- BUSN372 - Innovation & New Ventures
- BUSN373 – Intrapreneurship & Innovation Development
- INEN401 – Business Model Development
- INEN402 – Prototyping & Commercialization

* Note that the faculty members on the CETL Advisory Board serve as a Departmental Curriculum Committee for multidisciplinary courses.

The Co-op and Experiential Working Group Teaching Circle was charged with developing and piloting professional development modules to allow students to reflect on their co-op and experiential learning work terms. The professional development modules have begun the formal curriculum review process and will continue in 2014-15.

Co-op and Experiential Working Group is led by Caroline Ethington and Shari Luck.

Date		attendees
3/10/14	Open Discussion	8
3/24/14		6
4/21/14		9
5/5/14		10
5/19/14		8
	TOTAL	41

IV. Professional Development and Support

b. Tuesday Teaching Talks

Known as “Tuesday Teaching Talks,” the purpose of these small group discussions is to provide topics that are of interest to faculty and classroom staff for the improvement of teaching and learning. The discussions are intended to be interactive and personalized toward the intersection of pedagogy, policies, and technology. The benefits of the discussion often extended beyond the actual topic.



Tuesday Talks - Date and topic -	Attending
8/6/13 Intro to Blackboard – led by Tracey Rodgerson	12
8/29/13 Introduction to Blackboard – led by Tracey Rodgerson	8
9/17/13 Webinar sponsored by Provost – Research in Undergraduate Education	12
10/9/13 Blackboard upgrade – led by Tracey Rodgerson	9
10/15/13 Engineering Math: Creating a path for Success –follow up from Dr. Nathan Klingbeil’s talk from Wright State University - led by: Shari Luck and Mo Torfeh	7
11/5/13 Continuing the Conversation: Engineering Math	11
11/19/13 Six Steps for Turning Your Teaching into Scholarship – led by Dan Ludwigsen	6
12/10/13 Preparing for Winter Term CETL Events – led by Terri Lynch-Caris	4
2/4/14 Developing a Culture of Ethics: Faculty Perspectives - Follow-up from faculty forum	9
2/18/14 Teaching Strategies – led by Mark Palmer “Alternatives to PowerPoint, lab kiosks, group assignments and more”	9
2/25/14 Recruitment and information session for FYE 101 instructors – led by Shari Luck	17
3/11/14 Co-op and Experiential Education Curriculum – update on recent changes – led by Shari Luck and Caroline Ethington	8
3/18/14 MATLAB and other modeling software – led by Leszek Gawarecki	11
4/15/14 Using the LiveScribe Pen – led by Rich Stanley	10
4/22/14 Recording & Editing Screen/Audio Capture using Camtasia – led by Rich Stanley	10
5/13/14 MATLAB follow-up – led by Leszek Gawarecki	10
5/20/14 BlackBoard: Back to Basics – led by Tracey Rodgerson	11
6/3/14 FYE 101 Planning for Fall Term – led by Shari Luck	8
6/10/14 José Bowen follow-up – led by Terri Lynch-Caris	6
Total Faculty/Staff Hours (July ‘13- June ‘14)	178

Overall Assessment of Tuesday Teaching Talks

Continuous improvement of CETL programs is important and ongoing. A standard evaluation form was instituted during the 2013-14 academic year and continues for most CETL special events. Summarized Results are given below.

#	Tuesday Teaching Talks Summary Attendance = 178 (July '13-June '14)	# of respondents	% of respondents	Response
1.	Value: This event was valuable.	28 2 1	91% 6% 3%	Agree No Opinion Disagree
2.	Engagement: I was satisfied with the information and what I learned during this event.	28 2 1	91% 6% 3%	Agree No Opinion Disagree
3.	Content: The material covered is useful for academic/ professional growth.	29 2 0	94% 6% 0%	Agree No Opinion Disagree
4.	Benefit: I would like to attend this or a similar event again.	28 3 0	90% 10% 0%	Agree No Opinion Disagree
5.	Quality: I would recommend this event to colleagues.	28 3 0	90% 10% 0%	Agree No Opinion Disagree



Photo: CETL Brown Bag discussions became Tuesday Teaching Talks with the addition of Chefs Choice lunches

IV. Professional Development and Support

c. Awards and Teaching Support

Nominations for 2014 teaching awards: Dr. Michael Callahan, Professor of Liberal Studies, led the Teaching Awards Committee to solicit nominations for the 2014 teaching awards. A total of 34 nominations were received for 23 different faculty members before the deadline of June 1, 2014.

2013 Teaching Awards Dr. Michael Callahan led the Awards Committee to select the winners.

Photo: Prof. Kat Svinarich with President Bob McMahan at the Celebration of Excellence

The following CETL Awards were presented at the Kettering University Celebration of Excellence on October 25, 2013 :

Outstanding Teaching Awards (3):

Prof. Joy Arbor

Prof. Pat Atkinson

Prof. Kathryn Svinarich

The **Outstanding Teaching Award** is meant to honor faculty who have demonstrated outstanding teaching and support for students.



Tutt Award for Innovation in Teaching: Prof. Lihua Wang

The **Tutt Award for Innovation in Teaching** recognizes the accomplishments of an individual faculty member who has demonstrated excellence in teaching-related innovation.

Multidisciplinary course teaching support: Courses that bring multiple departments together with different perspectives are important to our student's learning and yet difficult to sustain within departmental budgets. Thus, the CETL budget includes funding for:

(1) *IME540: Environmentally Conscious Design*. This course was developed with grant funds and became a burden for any single department to sustain. Thus, the course was renamed KETT540 to be sustained under CETL direction.

(2) *FYE101: First Year Foundations*. This course will include one full time faculty or staff member as the leader along with a student peer mentor. Each will receive a stipend from the CETL budget.

(3) Additional multidisciplinary courses will be encouraged based on interest and funding in future years.

Innovative Faculty/Staff Members that have proposed and received support for transformative learning experiences including:

- CETL Course Design Recipients for 2013-14: Denise Stodola (HUMN391)
- CETL Course Design Proposal Recipients for 2014-15: Lihua Wang (CHEM237), Greg Hassold (PHYS114), Caroline Ethington (online PD), Raghu Echempati (MECH212), Mark Gellis (LIT315)
- KEEN Topical Grant Proposal Recipients: Art DeMonte, Larry Navarre, Gianfranco DiGiuseppe, Kevin Bai, Giuseppe Turini, Pat Atkinson, Dan Ludwigsen, Janet Brelin-Fornari, Theresa Atkinson

IV. Professional Development and Teaching Support

d. Educational Scholarship

The advancement of scholarly research in the area of technical disciplines must remain a top priority at the university. It is also imperative that the field of educational scholarship be prioritized and focused. Thus, CETL supports faculty with interests in education and the CETL director must model the value of such research through publications and scholarly speaking opportunities.

Selected Grants, Publications and Posters during this time period:

- Young, J., T. Lynch-Caris, G. Tewalde, G. Turini, M. Zadeh, "MRI: Acquisition of a motion capture system to facilitate multidisciplinary research efforts and enhance undergraduate research training" NSF Grant proposal for Major Research Instrumentation, NSF Proposal #1337531 Feb 21, 2013, Awarded Aug 2013.
- Stanley, R., T. Lynch-Caris, "An Innovative Method to Apply the Flipped Learning Approach In Engineering Courses via Web Based Tools," American Society of Engineering Education (ASEE) Zone Conference, New Orleans, LA, Abstract Accepted for May 2014
- Luck, Shari and T. Lynch-Caris, "Fostering First Year Student Success Through the Center for Excellence in Teaching and Learning," Kettering University Homecoming Weekend, Breakfast with the Faculty Poster Presentation, May 17, 2014
- Young, Justin and T. Lynch-Caris, "Kettering University Ergonomics Laboratory," Kettering University Homecoming Weekend, Breakfast with the Faculty Poster Presentation, May 17, 2014
- Lynch-Caris, T., "The Effect of Active Collaborative Learning on Instructor Evaluations: An Observational Study," American Society of Engineering Education (ASEE) Annual Conference Proceedings, Industrial Engineering Division, Indianapolis, IN, June 2014

ASEE (American Society for Engineering Education) Presentations/Posters by Kettering Faculty:

- Echempati, Raghu, "Statics Concepts Inventory Results at Kettering University," NSF Grantees Poster Session, ASEE International Conference, Indianapolis, IN June 16, 2014.
- Peters, D. L. and J. Arbor, "Student Perceptions of Connections between Statics Class and Co-op Work Experience", Mechanical Division Poster Session, Indianapolis, IN, June 17, 2014.
- Mosyjowski, E and S. R. Daly, D. L. Peters, S. Skerlos, A. B. Baker, "The PhD Advising Relationship: Needs of Returning and Direct-Pathway Students", *Proceedings of the ASEE Annual Conference*, Indianapolis, IN, June 2014 (Best Paper award from Graduate Studies Division)
- Lynch-Caris, T., "The Effect of Active Collaborative Learning on Instructor Evaluations: An Observational Study," American Society of Engineering Education (ASEE) Annual Conference, Industrial Engineering Division, Indianapolis, IN, June 18, 2014.
- Tavakoli, M., M. Torfeh and T. Lynch-Caris, "Innovation to Entrepreneurship Course of Study" KEEN Reception Poster Session, ASEE International Conference, Indianapolis, IN, June 17, 2014.

There were many additional scholarly publications presented by Kettering faculty and all are encouraged to share their work with the campus through CETL events. Faculty are encouraged to become active in ASEE for professional development and dissemination of educational scholarship.

V. Leadership Changes

The CETL Director has traditionally reported through the Office of the Provost. During this Academic Year, Dr. Jacqueline El-Sayed, Associate Provost, took a position as Vice President of Academic Affairs at Mary Grove College. At the end of the 2013-14 Academic Year, Provost Robert Simpson retired and Dr. James Zhang, transitioned in as the new provost. Provost Zhang is stepping into a healthy academic environment with positive ideas for growing excellence.



Photos:
Left: Prof. Jackie El-Sayed and Provost Robert Simpson at Jackie's farewell reception
Right: Outgoing Provost Robert Simpson and Incoming Provost James Zhang following Robert's Distinguished Faculty Talk at the Biology Lab Reception



In closing, I'd like to thank faculty/staff colleagues and our Kettering leadership, beginning with our University President, Dr. Bob McMahan, for the ongoing support of teaching and learning. As we focus on educating our students, we must never forget that *"We are all teachers all the time."*

Appendix: CETL History

CETL is the brainchild of the Kettering University Teaching Fellows, a group of faculty that began discussing the concept of a center in September of the year 2000. This esteemed group established the mission and name of the center, identified goals, proposed services and actions to satisfy the goals, discussed staffing and future issues, and posted an internal job announcement for the Director. Cynthia Finelli was named the first director for the center and a CETL Advisory Board was selected to assist the Director in her duties. Since that time, the center has been directed by a series of faculty members who have continued the ideals of the founding Teaching Fellows.



Mission Statement: To provide resources and opportunities for faculty, staff and students to become better teachers and learners.

Vision Statement: Empowering learners by enhancing faculty prowess.

History of CETL directorship:

- Dr. Cynthia Finelli, Assoc. Professor of Electrical Engineering, became the first CETL Director in January 2001.
- Dr. Daryl Doyle, Prof. of Chemistry, became the Center's Director in July, 2003.
- Dr. Greg Hassold, Prof. of Physics, became CETL's Interim Director in July, 2005.
- Dr. Jacqueline El-Sayed, Prof. of Mechanical Engineering, started as the CETL Director in January 2006.
- Dr. Mark Palmer, Assoc. Professor of Manufacturing Engineering, served as Acting Director between July 1, 2008 and June 30, 2009.
- Dr. Terri Lynch-Caris, Professor of Industrial & Manufacturing Engineering, became CETL's Interim Director on September 1, 2011 and was named the Director in December 2011.

The CETL Collaboration Room opened in October 2011 in a former classroom (Rm. 3-103) directly across from the Faculty Senate Conference Room. The original CETL office was located in Room 1-336AB on the Kettering campus. This area will continue to serve as a conference center for the Kettering community. It serves as a library/archives work and storage room. It has also served as a temporary office for a university phone-a-thon calling campaign. The CETL Collaboration Room is an open, inviting space to promote faculty and staff collaboration over coffee and snacks. A collection of journals, books, videos and other materials related to teaching and learning are housed within the library. Online resources will be continually updated on the CETL website.

The CETL Director is a half-time position reporting through the Office of the Provost. In 2012, the CETL organization grew to include First Year Experience (FYE) with a full-time FYE Coordinator. In fall 2013, a part-time administrative assistant was hired. CETL exists with a great deal of volunteer support from faculty, staff and students.

"We are all teachers all the time"