Fall Term Report
Strategic Visioning Working Group 3
December 22, 2016

How We Discover and Engage:
Visioning the Future of Our Research, Scholarship, and Creative Activity

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Our Charge:
In which ways and in which multi-disciplinary areas will the University's research, scholarship, and creative activity achieve their greatest influence in addressing the profound human challenges and community needs in 20 years?

Deliverables:
•Three to four primary observations about its guiding theme from campus conversations
•Three to four strategic aspirations associated with the working group theme and a rationale for each of those aspirations

Thematic Framework, Methods of Campus Engagement, and Interpretation of Results
A contextual framework for thinking about the impact of multidisciplinary research, scholarship, and creative activity was created by Working Group 3 using reports from international, national, federal, and professional societies that identify convergent themes and challenges that will define our collective global future (see Appendix A: Global Challenges Reference list). Using this framework (Appendix B: Global Challenges), Working Group 3 employed multifaceted means and modes of communication and feedback in order to engage the campus community. These included the following:

1. Direct engagement through a hosted luncheon discussion during visioning day which was attended by more than 150 individuals from across campus. (Appendix C: Notes from Visioning Day Luncheon: How We Discover and Engage; Appendix D: Most Frequently Used Terms from Visioning Day Notes).
2. Direct engagement within departments/divisions/units/programs (Appendix E: Humanities Proposal; Appendix F: Natural Science Facilitated Discussion Notes; Appendix G: School of Business Administration Facilitated Discussion Notes).

3. Working group member attendance to the open sessions. (Notes made available to Working Group 3 via Google Drive).
4. Feedback from the Steering Committee regarding the Midterm Report submitted by Working Group 3 (Appendix H: Working Group 3 Midterm Report).
5. An anonymous electronic survey sent by email to the campus community that yielded 319 respondents. (Appendix I: Working Group 3 Survey Results; Appendix J & K: Most Frequently Used Terms in Replies to Survey Questions 3 and 4).

Observations:
Overarching Theme:
It is clear from the results obtained through the various methods of engagement detailed above that the University community is overwhelmingly committed to resourcing and pursuing excellence in scholarship, research and creative expression that is commensurate with and motivated by our collective *Core Beliefs* as defined in the Mission Statement of the University of Dayton:

> "As a comprehensive university, we commit ourselves: to educating students within a vibrant learning community; to strong programs in both liberal arts and sciences and the professional disciplines; to collaboration across disciplinary and organizational boundaries. As a community, we are dedicated to excellence in teaching and seek to share it, critically review and evaluate it, and together transform our practices of learning and teaching. We are also dedicated to excellence in creating new knowledge, integrating this knowledge across disciplinary boundaries, and applying it creatively to meet human needs. We are responsive and serve the needs of our community and region. Our pursuit of learning and scholarship is characterized by academic freedom and professional responsibility."

Observation 1: Stemming from our Core Beliefs, there is a strong and pervasive commitment to diversity and inclusion, and a strong recognition that distinctiveness, innovation, and excellence in research, scholarship and creative activity is mutually aligned and synergistic with, and can only be attained, if we are a diverse and inclusive community.

Observation 2: There is strong support for continuing to resource, value, and support excellence, innovation, and distinctiveness in disciplinary scholarship, research, and creative activity as necessary for building disciplinary expertise among faculty, undergraduate and graduate students, and staff. This disciplinary scholarship is essential for creating new knowledge and creative expression and is the foundation for the successful development of multidisciplinary efforts that have regional, national, and global impact.

Observation 3: Motivated by the Marianist commitment to pursuing social justice and human rights, while addressing the global challenges that exist, there is strong overall support for investing in the following multidisciplinary themes, by integrating applied and basic research and scholarship, experiential and community engaged learning, undergraduate and graduate

education, dialogue, critical analysis, ethical discourse, creative expression, diversity and inclusion, multicultural awareness and international engagement:

- Sustainability, Energy and the Environment
- Human Rights, Social Justice, Peace, Conflict Resolution and Rhetoric
- Innovation and Technology
- Learning and Teaching
- Human Health and Wellness (Mind, Body and Spirit) across the Lifespan
- Marian/Marianist Studies; Theology and Religion
- Human Productivity and Social Entrepreneurship

Observation 4: In order to for UD to be recognized as "Distinctive" and achieve "Excellence" in any area of research, scholarship, or creative activity, it is evident that the University must commit to supporting and resourcing the faculty, students and staff in their efforts by:

- investing in the physical campus and facilities required for scholarship, research, creative activity, teaching and learning;
- incentivizing disciplinary/multidisciplinary activity through faculty reward systems, adaptations to workload, and potential cluster hires when appropriate;
- developing a campus climate that fosters and encourages multidisciplinary teamwork through the development of creative organizational structuring that fosters innovation, productivity, collaboration, hard and soft skills development, classroom, experiential and community engaged learning.

Aspirations

1. Commensurate with its Mission and Core Beliefs, and motivated through a commitment to social justice and human rights, the University of Dayton will be recognized as a leader in the in the following multidisciplinary themes of exploration, discovery and engagement, through potential areas of emphasis within each multidisciplinary theme:

   - Sustainability, Energy and the Environment
     (climate change, renewable and clean energy, biofuels, sustainability, biodiversity and natural resources, food supply, energy usage, food justice, insecurity, sovereignty, community farming, global politics, communications, economics, arts & design, anthropology, conservation, environmental science)

   - Human Rights, Social Justice, Peace, Conflict Resolution and Rhetoric
     (peace education, human rights advocacy, disability rights research, humanities based research in social justice, critical humanities research and teaching)

- Innovation and Technology
    (virtual reality, materials and aerospace engineering, systems engineering, biomechanics, cyber security, electro-optics and photonics, data management systems, innovation and applied creativity)

- Learning and Teaching
    (supporting under resourced schools and diverse learners, learning interventions, social media, community engaged learning, experiential learning, alternative learning/teaching styles)

- Human Health and Wellness (Mind, Body and Spirit) across the Lifespan
    (learning, behavior, cognitive function, assisted technology, music therapy, healthcare disparities, basic biomedical research, bioinformatics, neuroscience, imaging, food and nutrition, health informatics, mathematical and computational modeling, health communications, social justice, education, spirituality)

- Marian/Marianist Studies; Theology and Religion
    (theology, religion, spirituality, Catholic social teaching, faith)

- Human Productivity and Social Entrepreneurship
    (autonomy, social entrepreneurship, leadership, financial technologies, entrepreneurship—culture of startups, human factors, innovation and entrepreneurship, economic development, globalization, abundance, social engineering)

2. The University of Dayton will be recognized for its *distinctive approach* to fostering multidisciplinary research, scholarship and creative expression achieved through:
    A. the development and implementation of a sustainable infrastructure, institutional practices, and creative facilities design that allow for the flexibility, innovation, and adaptability necessary to pursue current as well as new disciplinary/multidisciplinary research and teaching opportunities as they emerge over time;
    B. the intentional and meaningful integration of faculty and/or staff mentored undergraduate and graduate student experiential learning, community engaged learning, undergraduate and graduate student research, innovative multidisciplinary curriculum and pedagogy as integral to a comprehensive university;
    C. the impact of these efforts on the local, regional, national, international, and global communities.

Appendix A: Global Challenges Reference List

United Nations Sustainable Development Goals
http://www.un.org/sustainabledevelopment/sustainable-development-goals/
Pope Francis Encyclical on the Environment/Climate Change
http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html
Principles for Responsible Management Education
 http://www.unprme.org/
National Endowment for the Arts: Challenges in the Arts in the 21st Century
https://www.arts.gov/NEARTS/2016v2-challenges-arts-21st-century
National Academy of Engineering: Grand Challenges for Engineering
http://www.engineeringchallenges.org/8996.aspx
http://www.engineeringchallenges.org/challenges/15583/15785.aspx
American Association for the Advancement of Science (2011). Vision and Change in Undergraduate Biology Education: A Call to Action, Washington, DC.
http://visionandchange.org/files/2011/03/VC-Brochure-V6-3.pdf
http://visionandchange.org/files/2013/11/aaas-VISchange-web1113.pdf
National Research Council of the National Academies (2009). A New Biology for the 21st Century. National Academies Press, Washington DC.
http://www.nap.edu/catalog.php?record_id=12764
American Association of Medical Colleges (AAMC)/Howard Hughes Medical Institute (HHMI) Scientific Foundations for Future Physicians. (2009)
https://www.aamc.org/download/271072/data/scientificfoundationsforfuturephysicians.pdf

Additional Resources:
NRC: Convergence: Facilitating Transdisciplinary Integration of Life Sciences, Physical Sciences, Engineering and Beyond
https://www.nap.edu/catalog/18722/convergence-facilitating-transdisciplinary-integration-of-life-sciences-physical-sciences-engineering
Interdisciplinary Research: A series of articles featured in *Nature*
https://drive.google.com/drive/u/1/folders/0B6aQC6USOdSYckh6MlVzRU9SQ3M

Appendix B: Global Challenges

Vision UD

UNIVERSITY of DAYTON

How We Discover and Engage: Visioning the Future of Our Research, Scholarship, and Creative Activity

In which ways and in which multi-disciplinary areas will the University's research, scholarship, and creative activity achieve their greatest influence in addressing the profound human challenges and community needs in 20 years?

Strategic Questions:

1. What are the future global challenges that we will collectively face in the next 20 years? How will we, as a Catholic Marianist University, address and solve these issues through research and education in order to improve the world through a lens of social justice?

2. What will be our focus areas for research, scholarship, and creative activity? What is needed to successfully develop these areas?

3. What will we do to position the trajectory of our university to be dynamic leaders in addressing these emerging issues through the synergy between research and education?

4. How will the university create and implement solutions to real world problems locally, regionally, nationally, and globally?

5. How will our cutting edge research be used to inform and train our students? How will we prepare our students with the skills and sensibilities needed to adapt and dynamically solve emerging problems, with disciplinary expertise and multidisciplinary cooperation, in ways that are consistent with the tenets of Catholic social teaching and the Marianist tradition?

Contribute to the conversation at: http://bit.do/2DiscoverandEngage

As a Catholic and Marianist University, we will engage collaboratively, across divisions and units, through our research, scholarship, creative activity, and pedagogy, by synergistically applying our disciplinary expertise to multidisciplinary pursuits in order to solve real world problems.

Appendix C: Notes from Visioning Day
Notes from How We Discover and Engage Luncheon

Comments on flyer- Our Ideas

- Question 1
  - Increase diversity among faculty/staff and students
  - Diversity training for faculty and staff
- Question 2
  - Classroom learning- wider diversity of textbooks and sources of knowledge (Video reference- "He's just sued Education")
  - Wider variety of teaching methods- using technology to the advantage of all learners
  - Experiential learning-
    - Community-based learning
    - Service learning
    - More omnipresent throughout the curriculum (BUS, ENG, Natural Sciences)

Post-it

- Clearly defining that Catholic tradition is intellectual and fearless
- Interdisciplinary research centers across schools
- Interdisciplinary majors
  - Disability studies
  - Conflict resolution

Comments on flyer- Notes from visioning day

- Different Perspectives
- Skills based curriculum years 1-2
- Virtue based years 3-4
- "Blow-up" the departments
- Can we grow endowment to fully support students?
- 4 years college vs. different blended models
- Involvement of undergrads in scholarship
- Inter-disciplinary
- Engineers as leaders
- Inter-disciplinary infrastructure
  - Benefits students, faculty
- Experiential learning: going abroad, engineering
- Catholic values/ civil discourse training
- What important research can't be traditionally funded?
- Can University fund an undergrad or grad student for each professor? So important scholarship can go forward?

- What would be the steps to creating a medical school? Building on existing strengths in biology, chemistry, health, biomechanics, PA, PT

Post-it

- Question #2- Forget about departments, instead look at problems/ and come together from various unity to work (Ex. Rel/social justice, CMM)
- Different tiers of faculty- research and teaching
- "Drop in" research experiences in curriculum- community base research
- Goal- top 10 research institute
- Educational experience here should be through research

Post-it Challenges

- Community engagement- needs for time and money
- Faculty needs students in order to teach and do research
- UD has had wonderful teaching tradition, but can improve with research elements
- More focus on graduate schools, history of resistance to grad students
- Lack of support in graduate programs
- Need to bring in more scholarship
- UD has done a good job making UD a beautiful campus, but needs in scholarship values are where the money goes- reprioritize values with scholarship
- Work more with outside world- work with industry
- Scholarship can create unique innovative ideas
- More publishing for scholarship needs to happen
- Challenge – MONEY
- Environmental needs
- Economic development
- Needs in sustainability
- Requisitioning assumptions- "does everyone at UD need a car?"
- Collaboration between departments- interdisciplinary approach to problems

Handout questions

- #1- Push back internally and externally
  - Technology development- Catholic and Marianist guidelines and philosophies
- #3- Research and education to create technical leadership individual
  - We can work better together to build the leaders of tomorrow
  - Develop a curriculum to bridge research, commercial
  - Can we tailor research of UDRI to the needs of schools at UD to be able to bring in sponsored research
- #4- Real world problem
  - Decompose the problem for technology

- Grand challenge 2010-2020 find the technology gap
- Gates foundation
- Link Grand Challenge to real work problems
  - To technology capabilities/desires
  - To strategy map
- Is there an office in UD/UDRI to identify these strategic needs, funding, and the parts of UD that can help?
- Significant Societal Impacts
  - Need a body in the university to track opportunities and research areas/researchers

Post-it

- Focus on healthcare as a right, not a privilege
- Need focus shifting to community health
- This should be reflected in studies, research, advocacy, and community outreach

Post-it

- Challenges will be competition from online degree programs and possible to address through a model of experiential learning
  - 1st year on campus, 2nd year 2/3 on campus, 3rd year 1/3 on campus, 4th only advisory role
- The structure of the university should be changed (ex. Stanford has computer science combined with another major
  - The other majors get credits?
  - The evaluation should also be changed?

Back of handout

- Global warming
- Population imbalance; declining population (west/ US/Japan) vs. growing populations (developing countries)
  - Ethics involved
  - Sustaining schools
- Globalization of work/research/outsourcing jobs (printing, publishing, janitorial, dining services)
  - Social justice driven by business decision by UD
- Healthcare availability- at home and global – elitist training by focused healthcare (going for highest paying job)
  - Need to train and educate by serving poor and medically underserved
    - Redefine success as helping others rather than earning $
- Cultural
  - Research into creating cheap easy to use testing available to everyone
- Full-ride scholarships given to student going to serve underserved populations (medically, educationally, etc.) has to pay back $ if they drop out or don't follow through? 4 years? Different time frame?

- How to undo damage from students only learning to pass test?
- Amount of information grows exponentially; how to manage teaching students what matters?
- Pendulum swing of academia going back to humanities and social sciences
  - Can we establish a balance to truly educate the whole person? (Rather than I'm a science student taking humanities class because I have to)
- Breakdown the silos of information, incorporate true interdisciplinary classes/programs/college
- Foster each student's vocation- how God has gifted them to utilize those gifts?
-

Group post-its

- Question 1- King said, "No peace among the nations without peace among the religions. No peace among the religions without dialogue between the religions." In the Marianist tradition of building community let us be a place where inter-religious community can be built through scholarly study, collegial dialogue, and concrete initiatives for (inter-religiously informed and motivated) local community building efforts.
- Question 1-
  - Challenge A: Culture of death and declining of population that contributes to economic collapse and to fewer students
  - UD Response: 1. Center for Social Concern on benefits of children to parents research (e. g. benefits of growing population, economic-)
  - Biology research- research on adult stem cells (which has cures already)
  - Challenge B: Dependency on foreign energy sources (that fuel national conflicts)
  - UD Response: Hanley Sustainability Institute
    - Focus on local and domestic and renewable resources
    - Research on oil as possible renewable source through organic microbial activity
  - Challenge C: Loss of Catholic faith in the US
    - Therefore, less interest in a Catholic university and theology classes, less respect for others in society
  - UD response: Marian Library/ International Marian Research Institute- outreach to community in Mary Gardens
    - Reach out with international conferences online

Post-it Comment

  - Overall, challenge of having time to do this research
    - Provide humanities more research assistance
    - Need to allow faculty (tenured and lecturers) to have time to research, perhaps with a limit to the number of committees one is assigned to, etc.
  - Overall challenge of having money to do humanities research
    - Allow humanities faculty to apply for lower-money grants. As it is, this is not even allowed.

Post-it Comment

- o For real world problem we should educate students, as they are kids. We should start going to high schools and middle schools to give general idea for creating better society around and about community service.
- o Cross- connection between dependent like engineering, business and psychology. This can help student and society to address problems and solution to the current situation in society
- o Energy is going to be global challenge in the next 20 years, we should encourage student by providing education about it. We can have more research prospect on energy efficiency, new technologies for renewable energy

Post-it Comment- question 1

- o Affordability for future students to attend UD
  - Need to build endowment and scholarships; strengthen partnerships with other colleges
  - Social unrest and hot it will impact campus life. Keep to develop well rounded students that are just as service focused as getting a good education. Be servant leaders through change. Service as a requirement

Question 1:

  - Challenge- rise of global unrest and conflict
  - Solve: continues to produce servant leaders in our students. And as a Marianist University we need to own our foundation and act as a leader for change and facilitator in our Dayton, Ohio and global community

Post- it Comment

- o Challenge- Where do our recourses go? How do we select issues to focus resources?
  - Gap between k-12 and high ed- in our mission to do research on this gap
  - Have vs. have not's – in our mission to direct resources to address educational gaps
  - Defragment wellness and health- especially with disenfranchised population- direst UD resources to develop model to address
  - Break down administrative and structural barriers to inter/multi-disciplinary work
  - We must encourage mission driven research
  - More multidisciplinary degree options
  - Focus area on closing achievement gap
  - Challenge- eliminate the barriers
  - We need to become nimble enough to match research to emerging issues- money and workload
  - Teaching, research, mission
  - Incentives for working across disciplines, limit barriers

- Cultural change
- Center for Societal Mission Based Research

Post-it Comment

- Match resources with expectations for faulty, research, scholarship and service
- Our curriculum should be more connected to problem solving that book knowledge

Post-it Comment

- Problem in higher education
  - Vision in sync with time deliverable: needs to be adjusted based on time

Post-it Comment

- Cultural encounter
- Global citizenship
- Inclusive communities
- Notion of excellence
- Add- diversity, multi/inter disciplinary, global perspective
- Problem-based and solution-base organic research focus and resources.

Post- it Comment

- Add models and elements to curriculum that allows alums and professionals to learn more about how to promote the common good as professionals
- Environmental sustainability- climate, food and water, energy

Post-it Comments

- We need to have lofty goals, this is more difficult in science because of the need for facility support but identifying and building on areas of strength within and across disciplines is something we can do
- Outreach and community
  - Strength in science is training people who can go out and make a difference
- There is really exciting science going on, we should encourage engagements in it
  - The global challenge here is enrollment to attract students you need to build
- CRISPER-CAS will solve medical challenges but there is a social justice concern about expensive medicine and an evolutionary concern about unforeseen outcomes
- Science – need a reputation at the top (a strong research voice) to legitimize this outreach/ better community between CAS and Ed

- All should know and celebrate science- how to engage people to enter sciences and science education to enhance this conversation
  - This is a place to come to learn and teach
- To be science literate and good global citizens- science is a lens to view the world- need to move it through the system to engage 1st graders – the education (broad) piece should be extended
- Good existing collaboration between Chem/Bio/Eng is a strength
  - Hire people with intent to build existing strengths
  - We can and need to educate the entire community

Comment on flyer (Global Challenges circled)

- Faculty and students ID challenges
  - Not just hiring for one-day experiences but position working as part of the solution

Flyer (On diagram- arrows between "Food, Water, and Renewable Energy" and "Climate Change")

Comments on flyer

- (Next to "Health" on diagram) social, physical, and emotional
- Diversity? Human rights, social justice, biodiversity, natural resources, and wellness

Comment on flyer

- Research as part of the curriculum

Post-it

- Culturally-responsive design

Comments on flyer

- Global challenges- Peace, Water, internal conflicts, demographic changes, climate change, infrastructure, aging population,
- Areas of research from engineering

Post-it

- Inter-connectivity- ETHOS model

Post-it

- Racial divide in society
- Democratic and civic engagement
- Student involvement as voting citizens

- Community engaged and experiential scholarship
    - Real-world problems and application

Post-it

- Understanding origins of conflicts
- Service learning
- Core curriculum education

Comment on flyer

- One aspect of UD belief different place in higher education is our possibility of genuine implementation of community and global partners equally in the classroom and research

Comment on flyer

- Problem based learning
- Cluster hires surrounding a hire
- Civil discourse and civil unrest

Comment on flyer

- Projects with large societal impact

Comments on flyer

- (added to diagram) Global perspectives, diversity, Environmental sustainability, multi-disciplinary
- Research- problem-based, skill-based
- Cultural encounter, global citizenship, inclusive communities, notion of excellence
- Question 5- Change vision so students part of research agenda
- Solidarity with and responsibility for people around the globe
- Clean water project in Burambe – Malcolm Daniels
    - No fed funding
    - Small institute

Comments on flyer

- (added to diagram) Lifestyle expectations
- Community engagement, outreach, human relationship of support and challenge, time and students most important
- Can't have university without students
    - Research, scholarship and inquiry
    - Graduate study
    - Tension between research and teaching
    - Drives innovation- espoused values
- Advancement/ development attention to non-UDRI research
    - To meet interest and needs of those who fund research
- Follow the money to see where lived values are
- Question 1- Societal rejection of scientific fact- "what is fact?"

- o Question 3- All units engaging in scholarship and interdisciplinary collaboration
- o Question 4- library transformation to collaboration space- museum to display unique collections
- o Question 5- instill a culture of inquiry, curiosity, and innovation
- o Societal shifts in lifestyle expectations
- o Does premier mean exclusive?
  - ▪ How do we "raise the profile" AND increase access and inclusion?
- o Bank of credit hours for each program to fund a student to partner with in research
- o Berry Scholars- full-time scholarships for exceptionally qualified student
  - ▪ What qualifies a student?

Group Notes (emailed)

- o We discussed programs at Stanford, like CS+X, which is joint degrees with 120 credit hours. We also discussed different models for the university, like in addition to current model in which students are 100% resident for 4 years, we should pursue other possible models too. One could be, first year students to be resident 100% (i.e. they attend all of their classes on campus), second year 75% (some online or flip), third year 50%, and so on. This allows less cost for students/university and allowing them to get some practical experiences
- o In addition to asking where university will be in 20 years, we should also ask where internet will be in 20 years. I think most houses by that time will have a smart room (a cheap version of cave) that allows people to travel anywhere around the world!!! Or having a discussion on the beach with the friends when they are all sitting in their smart rooms at their own houses. What would be the model of university in such an environment?
- o An explicit question we raised was how UD compete with cyber education in future if we only focus on undergraduate.

Group Notes (emailed)

- o The conversation started with a discussion of the challenges that technologies poses when it is misused. Two individuals expressed concern at how the use of cell phones has evolved and identified a number of social ills associated with cell phones. It was proposed that engineering students be taught to contemplate the social ills or potential misuses of technology (such as information gathering that violates privacy or other technologies used as weapons) prior to developing it. It was postulated that if this had been done with cell phones, they may not have been developed.
- o Toward the end of the luncheon and after many other tables shared their thoughts, our table reengaged in a thoughtful conversation about the need to teach our students how to discern truth from the plethora of news and other information that they receive. We discussed how undergraduate research could be a means of

teaching student how to discover or discern what is true and how to develop new information from what they find to be true. We also discussed the importance of teaching students to continuously challenge their own beliefs and to be willing to change or strengthen those beliefs as they discover truths that challenge or reinforce their beliefs. We also discussed how students could become a vital element in challenging the truths presented to them by the University and its faculty. Such a rigorous environment would help to keep the University focused on what is most important. One person noted, "An institution that remains anchored in truth stays aligned, no matter the times, to correctly address human challenges. In this way, the University will be less likely to be swayed by fads."

o How can technology be developed informed by ethics? Cell phones have caused many problems, students are addicted to them and are more lonely than ever. Ethics may have informed us to never invent cell phones/smart phones. Sensors violate personal freedom, but can be used for law enforcement.

Notes from visioning luncheon meeting: Natalie Hudson, Vijayan Asari, Sandra Yocum, Maureen Schlangen, Leslie Picca (email)

o How do we address the needs of the world? Petals of the diagram address practical, tangible problems and issues that many disciplines can and do address on campus. Are art, culture, spirituality, religion, communication represented well enough in this model?

o Picca: Why be bound by disciplines? Do they have meaning beyond academia?

o Yocum: Departments do teach their subject matter in the context of the larger issues represented in the ovals around the center; how do we add the Catholic dimension as a frame? Catholic identity is much more than Catholic Social Teaching and the Marianist charism. We should include a spiritual dimension, or one of reflection or mindfulness to help students to see themselves in the larger picture; leave room and time for thinking, contemplation, reflection, discernment of vocation.

o Hudson: Yes, we need to make sure thinking is a part of the pursuit of application and practice.

o Yocum: There are moral aspects and considerations to all of these topics; we do not want to risk losing this.

o Picca: "Self," family and relationships should be components of this model, too.

o Hudson: Any global challenge we face now requires multiple areas of expertise – but also people must be able to connect to one another, so relationships are important to that.

o Hudson: At this time, there isn't an incentive to encourage interdisciplinary cooperation; also, the logistics are an issue. It's difficult but possible within an academic unit like the College, but trying to go outside a unit is much harder.

- Asari: What changes have occurred through the years, and what will distinguish us from others in higher education in 20 years as delivery methods and demand change?
- Picca: Also, how will our research be affected, and how will we contribute to open-loop education and continuous lifelong learning?

Group Notes (Email)

- *At table*: 1 UDRI, 3 UD Dept. of Chemistry, 1 UD Dept. of Communications / Marketing, 1 UD Dept. of Religious Studies
- *Discussion topics:*
  - While it is important to be multidisciplinary, not everything can be. Some existing humanities/science disciplines may not overlap or complement one another.
  - Biggest Barrier to Collaboration / Multidisciplinary work towards UD Vision goals or any other normal work – not enough time to talk. Further, there is significant non-awareness that others even exist within UD or that they may have the skills/knowledge to help out on a multidisciplinary problem. "Happy Accidents" where staff of other disciplines may meet is helpful, but, isn't the best way to go about this. Facilitating events for such interaction, as well as freeing up time, would be very helpful and is required.
  - Idea to address Barrier: Propose solutions that promote people to come and talk and mingle, and, make time for staff to come and attend such events.
  - For the 5 questions, question #2 was discussed somewhat, but it was noted that it is hard to pick a particular direction from the "flower" diagram, but, it was also noted that many of the areas overlap quite a bit and could be combined (example – technology, food/water/renewable energy, climate change, Peace and Conflict resolution when conflict is over food/water/energy resources)
  - Would be a good idea to understand what areas of research UD is already working in and see how existing areas could be combined to go after key areas. Also, once focus areas are decided upon, also use this same survey of existing UD research areas / strengths to align existing work with goals.
  - May also be useful to understand what the projected 20-30 year future demographics are for national/international trends to better see what UD should be working on now that will have meaningful and useful impact 20-30 years from now.
  - Energy was suggested as a core future area to add to the "flower diagram" of research areas to focus on.

Group Notes (Email)- Disciplines represented in my round table:

-Biology

-Religious studies
-Counselor education
-Dietetics

One participant emphasized that we must use caution in our use of a multidisciplinary approach--it can slow us down in certain disciplines. One model will not fit all. Some research areas, like climate change, fit nicely with multidisciplinary approach.

Challenges discussed included diversity in a global world, biodiversity and natural resources, and how to make effective use of people (our human resources).

Human rights activism and social justice initiatives were identified as ways to solve some identified problems

Focus on better ways to integrate research and teaching, make the purpose of the research better known to students.

Develop multiple campuses and/or partnerships with universities in other countries (e.g., Latin America, Spain, Italy—in places with Marianist connections—perhaps in places in the developing world) to better link UD to some of our identified areas of need abroad/globally. Consider how to make it more integrative with the local culture, and how to make our efforts more sustainable .

Interdisciplinary scholarship: We don't necessarily need to limit our thinking to projects that involves scholars from multiple disciplines working together on an issue. There can also be a domino effect of one scholar's work feeding into another's.

We need to be prepared to address future problems that we can't anticipate—those that might appear "out of nowhere" (e.g., Zika virus). Invest in faculty, facilities, resources, infrastructure. Build programs. Sweep in undergraduates who can be actively engaging in projects that are cutting edge.

Cluster hire across multiple departments--invest in multiple people, potentially hired by different departments/divisions, who are attached to the problems identified, like climate change.

Add a petal to the "flower" focusing on <u>democracy</u>—we need to foster "living out" these principles, studying factors that erode democracy, and determine how we can get back on track to develop more appropriate political discourse

Other areas discussed in broader (whole room) conversation:

- do away with disciplines and departments?
- develop a specific center for this interdisciplinary work (Molly Schaller's table discussion).
- develop connections across disciplines or schools and then attack the problems
- Consider how we create time to think and reflect (The soil of the flower)
- What are our espoused values? How can those drive where the money goes?
- Consider societal shifts in lifestyle expectations. In the future will everyone have car/house/expect to attend college? Will those priorities remain or shift? How does our culture of inquiry affect those variables?
- Demonstrate our commitment to inclusion by including voices of marginalized populations. (E.g., Native American, Latino/a), these voices are in the margins; because classes related to them are electives, we aren't yet saying they really matter. Move to include them in the core curriculum)
- Improve UD's culturally responsive design, including valuing diverse abilities, to help students develop personal identity. Consider more of a skills-based curriculum so all students develop grounded set of skills that apply to all. Then (in third and fourth year) progress to a virtue-based curriculum related to the student's specific discipline.
- Blended approach--part face to face, part online?
- Sustainability (add as a petal?) --work at Handley center (?) Stand-alone major with faculty from all disciplines?
- Have teaching/learning be more problem-based
- Have better ways to bring in students to help address our identified problems (provide more funding for them?)
- Perhaps some hires could be made through the Provost's office rather than with a specific unit. Goal--best people to do the work, bring them together, include students in the process
- More experiential learning (e.g. we are sending students to Cameroon for water treatment—do more of this). Do the work at the most basic level, so the students can be impacted by the experience while also making an impact on a region in need. More serving under-served regions and people around the world--be solutions to global challenges.

- We need to address the problem of uncivil human discourse. We, as a university, send compassionate and articulate humans into the world. UD could be a premier university to train and send these good people forth to solve these issues (E.g., develop a Center for Civil Discourse, which relates to our Marianist roots).
- Concern that we not only focus on the problems in a pragmatic way, but perhaps also on forms and standards of research that focus on the deeper nature of "who we are"-- and consider how we convey that to students.
- Consider standards of evaluating faculty research that aren't overly pragmatic (which could risk ignoring the humanities).
- Research tends to be dollar-driven. Can all research we want to do be funded that way? Other ways to support research that aren't monetary?
- The entire community needs to be more science-literate. Our efforts should excite "first graders through graduate students" about science.
- Have all our students graduate with a sense of solidarity with people around the globe. Marianists are on the ground in 40-some countries. Capitalize on these relationships we already have.
- Each faculty member get 6 credits per semester to waive for a student (?) to create and sustain research efforts and be bold in what they want to do. Helps attract a top student or give a current student an opportunity to cultivate the vision we want to see (?)
- Barry Scholars have ceased for single students to get a full time ride. Now split/diluted (?) Valuable to give more such scholarships to highly qualified students.

Group Notes (Email)

      Table Note taker J. Kanet

      Discussants:

          (AM) Aimee Maruyana (Advancement)

      (WC) Wesleigh Cummings (Advancement)

      (RC) Rachel Collopy (Teacher Education)

      (BH) Beth Harrison (Teacher Education, LTC)

      Amit Singh (Biology)

      Madhuri Kangosingh (Biology)

RC: Could we grow the endowment in 20 years to be able to fully support 100% student costs?

BH Q5: Perpetuating idea that we (faculty) do research and then tell students. Should be making research the education. We need to change vision that "we do it and they learn."

BH: Four years too expensive; need new model of four-year residence (time out from real life for four years) Blended programs (not total online and not total face to face) and not 4 years' residence. Smaller blocks/not semesters. <u>Blended and split up over time.</u>

BH: How do we educate (not just univ. but K-12 also)

BH: Add sustainability to the picture (e.g. Hanley Center) – looking for standalone major, not just housed in one department. (Perhaps collapse other in the figure into sustainability... like water)

WC: We need more of interdisciplinary exposure for students.

BH: If it is <u>problem oriented</u> then it motivates students. (e.g. Hanley Center's major in Sustainability…they have a problem first …then figure what they have to learn to solve it.)

Group Notes (email)

Q1 - Challenges

- Research for the common good
(1) prevent, treat, or cure disease.
(2) reduce the environmental impact of human activity.
(3) enhance the safety, health, or welfare of workers.
(4) enhance the resiliency of the built environment.
(5) prevent, mitigate, or respond to natural or man-made disasters.
(6) enhance the quality of life of people with physical or mental challenges.
(7) reduce the digital divide.
(8) foster communication, collaboration, or education.
(9) Foster human rights.

Q2 – Our strength

- Conflict resolution, peace-making in addition to other strong research area

Q3 – engage students

- Building the culture of research in students, to engage students in the study of multiple layers and perspectives of questions in order to solve problems.
- Diversity in the intellectual discourse, inclusion of marginalized groups in the required curriculum, engage the others. Deconstructing the core curriculum to reduce structured ignorance.
- Global citizenship and culture of encounters

Group Notes (email)

Colleen Gallagher—teacher education background (concern for linguistically diverse students)

Schamachary Sathish—UDRI Research Engineer

Eileen Carr- Art

Vicki Kramb—UDRI Research Engineer

Marylea Dunphy -UDRI Purchasing

- Colleen Gallagher—challenges-diverse linguistic backgrounds within schools, immigrant and refugee students and populations, marginalized populations, how do we address this with teaching and other approaches effective communications….other departments psychology communications sociology etc can all contribute…
- Eileen: do you see a need for individual centers or more of an overall
- CG response: both, if you compartmalize too much get more seclusion, but must address different aspects of programs
- Marylea: new person in charge of diversity and inclusion (Larry ? Burley?)…housing of international students very compartmentalized, but not by design, by choice.
- Sathish: son did not live with domestic students only some other international students within in his housing group. He could understand the international student
- Eileen: what is unique about our research approach that makes it competitive and will address these issues.
- Sathish: The scientific and mathematics fields are more integrated than others already, this is an area that will grow anyway, connections with campuses in other countries, SOE in China, other schools also have campuses in other countries, middle east particularly, India (Bangalore),
- Vicki: must understand what the society values to understand how to perform or implement new research look at the art, that tells you what they value, then build your technology on that value. If they don't value the same things it will never work

- Language: words don't mean the same things to all people, it's all about communication, must be more active listeners

Summary:

It's all about communication. The same words don't mean the same thing within a single language, and linguistically diverse people do not understand things the same way. The Marianist approach is to recognize the individuality of each person, but the contributions of that individuality is to add unique benefit to the larger group. We don't want to create an educated class that is all plain vanilla, all equally good at all disciplines. We want to create a class of educated individuals that are experts in their field and understand the how what and why of the values within their individual field of study. But they also much at least understand the values of other disciplines, and what they bring to the table. Understanding what is the "Best" or "right" way to do something is well defined within specific engineering fields, but as soon as you add individual interpretation into the equation, or differing values, the definition of "best" or "right" way to do something changes.

Group Notes (email)

- UDRI and academic collaboration, how will that change?
- FOCUS AREAS - School of engineering, strengths in engineering based, chemists, physisists, human performance, but mostly engineering based. Multi-disciplinary.
- Need to assess the strengths and weaknesses of the university. Health is a potential, but need tob e careful about what areas within health sciences we pursue. Example: biomechanics would be a strong area of growth and development. Draws upon the disciplines of many.
- What multidisciplinary areas are potential growth areas for future graduate programs? Health sciences does provide a variety of potentials.
- Collaborations or lack of collaborations between campus and UDRI? Lots between school of engineering – base of both. More joint appointments. Salary structures, resources, match up. Easy to go between. How to pay people from UDRI. Infrastructures make it difficult. Positions linked to Provost office rather than unit…even if special appointment.
- Difficult even because the interdisciplinary courses, research are difficult…where classes "count", where students "count".
- How to get the best people to do the necessary work, compensation shouldn't drive it.
- Teaching with others helps you develop different thinking techniques. Helps the researchers.
- INTERDISCIPLINARY
- Need not just the solutions to the problem but also how to implement.
- Grants can connect researchers to UDRI but not else.

- How to also connect undergraduates students to UDRI researchers (beyond school of engineering)? Necessary for providing experiential learning.

Group Notes (email)

- **Members**: Judith Huacuja (Art & Design), Susan Trollinger (English), William Trollinger (History), Zach Reed (UDRI), Kathleen Webb (Dean, University Libraries), Stephen Wilhoit (English), Patrick Thomas (English)

-

- **Addressing Global Challenges:**
- Moments around the globe when fascist dispositions reign and what we fear is a loss of critical thinking. Consequently, universities are charged to teach critical thinking to engage global challenges. Critical thinking is essential to understand and respond to problems.

-

- Willingness to act in ways that raise common good, even without disadvantaging others, is a skill set that goes along with critical thinking.

-

- What are the skill sets involved in cultivating critical and civic discourses? **What kinds of research can we do to uncover how dominant discourses work?**

-

- What are the assumptions made by the working committee about what research is? The focus of scholarship should be teaching and learning: scholarship of teaching should be central to the investigation of how we discover and engage.

-

- Research on pedagogy and teaching is central to our development; need to move away from "STEM" models of research. And in order to do that kind of research, we need more resources for and opportunities to connect across campus/fields/research centers. That isn't easy, either, for researchers in UDRI, whose time is contracted by their sponsoring/funding institutions.

-

- Interdisciplinary research and teaching can't happen with time requirements (especially with UDRI folks) – interdisciplinarity is touted but not supported.

-

- **What is needed to develop interdisciplinary research areas?**
- Resource allocation policies need to change
- Need more flexibility with promotion and tenure requirements for what
- research counts, what kinds of merit pay is available for certain kinds of scholarly activity and not others

-

- **Problems that UD is poised to investigate**
- If we understand ourselves as generally "educational" we limit our ability to think about research problems that impact Social Justice and Catholic Social Teaching. So, not exactly a problem per se but an initial problem of how our university and research programs are positioned.
-
- The graphic on the "Vision UD" flier is <mark>overwhelmingly STEM focused – why?</mark> How is UD positioning itself with respect to research focus that leaves out the humanities?
-
- <mark>What is the role of artistic production and humanities research in the larger UD vision of scholarly activity?</mark> Doesn't seem to be present, so it's difficult for us to answer what areas to focus on when we're left out from the beginning.
- How do we develop partnerships that are reciprocal across departments (example: English and Engineering)?
-
- <mark>One additional area of discovery is Discourse – civil/critical – information studies/sciences. And integrating Ethics into the current areas as a way to consider the importance of history, philosophy, ideology, and language that permeate all areas of inquiry.</mark>
-
- **How will we implement solutions?**
- By sending students out into the world – we develop students and they have
- been changed as a result of their experience here, and we don't necessarily know what they'll do. Relatedly, continually improving the diversity of our student population and teaching faculty in order be able to produce students who can contribute solutions to contemporary problems.
-
- Moving outside of our insularity is a necessary step to resolve contemporary problems; again, <mark>consider the role of CST and Marianist identity – there are resources in that tradition that can be helpful for us.</mark>
-
- Begin practicing empathy, opening, etc. that allow us to see and listen in ways that allow interdisciplinary inquiry. We need to step up efforts to educate faculty on the tenets of Catholic Social Teaching, as a humanistic vision, that support the inquiry and the teaching of discourse.
-
- **If there was a <mark>Center for Discourse Studies</mark>, what would that be?**
- That is a huge question, we can't answer it. And we don't know that that's an
- appropriate way of thinking infrastructurally. But we LOVE the idea!!

Appendix D: Most Frequently Used Terms from Visioning Day Notes

Appendix E: Humanities Proposal

Strategic Visioning Process, 2016-2017

A Proposal from Faculty in the Humanities

Overview

In twenty years, the University of Dayton, attentive to its commitment to the education of the whole person in the tradition of Marianist and Catholic higher education, will be known nationally for its Humanities Center which both fosters engaged, interdisciplinary research centered in the humanities, and anchors UD's distinctive reputation for providing a critical, ethical and creative interdisciplinary education to all undergraduates through its annual campus-wide seminar on contemporary issues.

The Center's work will rest on the fundamental idea that the classic questions of the humanities on the nature, meaning, and purpose of human life have intrinsic and enduring value, and that the humanities will have a distinctive and necessary role to play in addressing these questions in new ways in an unpredictable future.

Context

Over the next twenty years, the University of Dayton will continue to face the challenge of providing an education that justifies the cost of a private university in competition with lower cost, credential-focused alternatives. This will take place amidst sustained environmental, economic and social crises. Climate disruption will grow in tandem with refugee crises orders of magnitude beyond those of recent years that are already destabilizing democratic political systems. This will demand collective action for the common good and intercultural engagement on a historically unprecedented scale. At the same time, accelerating automation will not only further erode blue collar employment, it will increasingly disrupt white collar fields and create the need for fundamentally new skills. These changes represent an opportunity in the face of a broader push for stripped down, credential-focused models of higher education. Amidst these crises, the intellectual and imaginative habits honed by a humanistic education will be more valuable than ever: critical thinking, knowledge of diverse traditions and cultures, moral discernment, and creativity. The particular Catholic and Marianist inflection of this tradition–sacramentally minded, community focused, formed in practical wisdom, possessing a critical ability to read the signs of the times and a vocational approach to education–will offer both a substantial contribution to students' intellectual needs and a sense of meaning and purpose that they will find attractive in challenging times.

Proposal

This institutional challenge centers on the core of our mission: undergraduate education. Therefore, meeting this challenge must take place on that front: deepening undergraduate

education by supporting and strengthening the humanities faculty who contribute to the education of all majors.

To that end we propose the creation of a true "Commons" for the humanities: a Humanities Center that provides space, structures, and practices to foster interdisciplinary engagement with the "signs of our times," bringing the wisdom of our traditions into dialogue with new methodologies to give UD graduates the resources to face these contemporary challenges. The Center will play an essential role in making critical, ethical and creative interdisciplinary engagement a hallmark of a UD education in all majors and schools.

The defining practice of the Humanities Center will be an annual interdisciplinary dialogue focused on a pressing matter of the time. This topic, announced a year in advance, will be addressed by a disciplinarily diverse cohort of 4-5 faculty fellows centered in the humanities (broadly conceived) and including other disciplines as the topic dictates. They will pursue research projects in a collaborative year-long seminar. In public sessions, this faculty cohort will model critical and creative interdisciplinary engagement for students. Students will participate both in these faculty dialogues and in their own interdisciplinary conversations in and between courses. The center will serve as a clearinghouse for resources to engage the issue across the curriculum in a manner akin to, but more varied than, the current first year arts immersion. UD will become nationally known for its campus-wide, community of inquiry model which provides students with four years of sustained, interdisciplinary communal engagement with a variety of pressing issues. Thus, the formation and skills bestowed by a liberal arts education will not be something students are left to work out on their own. At UD, it will be consistently modeled and practiced on multiple levels

The Humanities Center will support faculty research in the humanities and serve as an incubator for collaborative work among the faculty. UD, like many universities of its size, is still relying on individual initiative, informal networks, and ad hoc committees to facilitate collaborative, interdisciplinary research. The center will house staff and structures to facilitate grant funding for faculty research in the humanities. Members of the annual faculty cohort will receive a significant course reduction to support their research projects. In addition to their direct yield in research and campus discussion, the annual cohorts will also serve as incubators for larger, longer-term grant-funded collaborative projects in the humanities and broader interdisciplinary projects. There are numerous grant opportunities for collaborative and public humanities projects. The center will provide a test-bed to ramp up collaborative projects for competitive grant funding that our current informal network model cannot provide.

The center will become a fundamental part of realizing the goal of integration built into the current CAP. It will also serve as a locus for expanding inter-disciplinary integration into new areas as the CAP is revisited in the next two decades. The humanities have historically been sites of the integration of new methodologies into a lived intellectual synthesis (witness the Medieval incorporation of dialectical method, Renaissance and Modern engagement with new historical

methods, and more recent integration of social science methodologies). Such integration will prove necessary if emergent powerful methodologies such as data analytics, are to be critically understood and used for the public good. The challenge of the unfolding climate crisis will require that citizens have knowledge of ecological interconnections in a manner akin to our current focus on knowledge of social interconnections.

With regard to the specific areas of consideration outlined by the current strategic visioning effort, the proposal addresses them in the following ways:

How We Define Educational Value

The Humanities Center will give concrete expression to the intrinsic and enduring value of the humanities for our students, particularly undergraduates. In distinction from an argument for the value of the humanities that relies only on their instrumental value for the development of professional skills, the Humanities Center, through the campus-wide interdisciplinary conversations it hosts, will promote scholarship that sees the humanities as abiding resources for the development of the whole person, for fostering an appreciation of the inherent dignity of all persons, for the discernment of vocation, and for a communal response to pressing contemporary issues.

How We Teach and Learn

The Humanities Center will facilitate interdisciplinary teaching (including between academic units and with partner institutions abroad) which draws on the resources of the humanities traditions, examines contemporary issues in their light, promotes high quality undergraduate and graduate scholarship, and experiments with new methods in pedagogy. This will be practiced in regular, planned public dialogues that are scheduled to contribute to courses across the curriculum. This practice of sustained, engaged interdisciplinary scholarship will become a hallmark of an undergraduate education at UD across the disciplines.

How We Discover and Engage

The Humanities Center will be a nationally recognized location for the promotion of the distinctive methods of humanistic scholarship through its annual thematic seminar and the interdisciplinary research it fosters. This could be expanded to include additional means such as: visiting distinguished faculty fellowships, post-doctoral fellowships (both of which could be organized around thematic concerns); UD faculty fellowships and working groups; development and support of new interdisciplinary programs; undergraduate research fellowships.

How We Shape Our Campus

In order to anchor it in the University's life in a concrete way, the Humanities Center will provide space, structure, and practices for interdisciplinary conversation centered in the humanities. It will have a physical location in the heart of campus with dedicated classroom,

seminar, and meeting spaces. The Institute will have a full-time Director appointed from the faculty as well as an appropriate staff supporting undergraduate education and faculty research.

How We Promote Institutional Effectiveness and Sustainability

The Center will provide an institutional locus to support humanities education and research. Although likely to be located administratively in the College, the Center's broad mandate may necessitate the creation of new administrative structures to facilitate its interdisciplinary work. The interdisciplinary research it fosters will provide an essential component to the campus's conversations on global issues of the environment (particularly climate change). It will also serve as a locus for the continued refinement of the CAP to address the changing needs of civilization as the climate crisis unfolds.

Appendix F: Natural Science Facilitated Discussion Notes
Notes from Natural Science Strategic Visioning with Provost Benson   2 November 2016

Discussion Framework (P. Benson):
- Goal for Strategic Vision: University-wide priority setting
- Vision for 20 years out, not what we can accomplish within 1-2 years.
- Prioritizing areas for investment will not mean that those areas not prioritized through the visioning process will be dissolved or disenfranchised. Priority based decisions are continuously made by the Deans offices, Provost office and the offices of the VPs, but the decisions and process aren't highlighted in a way in which prioritization is being discussed as part of the Visioning Process. Need to let Paul and Jason know of potential decisions may negatively impact departmental priorities.
- Ways to provide feedback:

  Provide anonymous/non-anonymous comments on the UD Strategic Visioning Website. Click on one or more of the thematic working group links on the right hand side of the page to leave anonymous comments on the threaded discussion under each topic.
  https://www.udayton.edu/president/join-the-discussion/working-groups/index.php

  Communicate your ideas to a member(s) of the steering committee or to the working groups:
  https://www.udayton.edu/president/join-the-discussion/working-groups/index.php

  Communicate directly with strategic visioning co-chairs Michelle Pautz or Paul Benson.

Discussion Opening Question (P. Benson):
What are particular areas of strengths that we should take account of in terms of the strategic visioning process? (Referencing any aspect of the university community.)

1. UNDERGRADUTE RESEARCH (Experiential Learning):
   A. Faculty mentored-undergraduate research in the NS; Faculty mentored experience already makes it distinctive
   B. Broad range of learning: broad experiences, curricular/co-curricular synergy, community partnerships
   C. Interdisciplinary research/multidisciplinary research exposure at the UG level: Already Distinctive
   D. Deliverables are already strong (distinctive): UG publications with faculty mentor (no grad students); UG students are drivers of the projects—UG students obtain data, analyze, and publish
   E. Institutional Support for UG is strong: Honors Program, CAS Dean's summer fellowship

F. UG research takes tremendous faculty mentorship/time/attention—must factor into faculty workload; a lot of one on one time—goes to the question of what capacity would we need to be really recognized for this?

G. UG research cost money—need seed money; start-up funding; external grants; donors; internal sources

H. Need to recruit strong research faculty, and give them time to do research and write grants; in order to support UG research, we need money—external funding which can only be achieved with a world-class research faculty.

I. Short term goal: Recommendation to follow up on the invitation to host the NSF workshop on multidisciplinary student training grants.

2. FACULTY/STUDENT RELATIONSHIPS

A. Faculty are highly invested in teaching; interaction with faculty; strong interaction with students; students see an advantage of the face to face, non-online training; express a preference for face to face vs. online insofar as it helps students to develop interpersonal skills; evidence for strong student-faculty relationships made via academic classroom interaction

B. "We really care." Faculty care deeply about teaching and want to engage students in learning in and outside of the classroom.

C. Strength of faculty-student relationships develop in a number of ways: Academic advising, classroom (student-instructor), research mentorship, student organization participation

D. Some basic things that need to be addressed: fewer adjuncts; facilities; need to be addressed now while we are thinking of what follows;

E. We teach a lot of students who are non-majors; they deserve PhD's in the discipline—the one time they will be taught by an expert in the field.

F. UD Might be deliberate in reducing student body size due to cost/student. May make the above more achievable. More revenue to be gained in ways other than UG tuition.

G. In order to do it all, we need to break out of the mold for P&T for one type of faculty member; other units have this model; there are risks that you lose the core of teacher/scholar model.

Recommendations:

1. Need for Synthetic Integration: Universities that are recognized for something they do well, have the following in common: Coordinated philosophy of what they want to deliver, the faculty who can deliver it, and facilities that are needed; Synthetic view of where we want to go---coordinated vision for staffing, facilities, and education/pedagogy/curriculum; We currently have poor communication between entities and are highly decentralized.

2. Incongruence with the following: want More PhD's in the classroom, want PhDs do more research, want smaller class sizes. Need to have a comprehensive strategy to integrate the increasing demands.

3. Need to prioritize a skills based training focus for undergraduate and graduate students

A. In specific fields, there is a disconnect between the education and the work life; we prepare students well for an academic life; not well prepared with a skill set in the real world (e.g. industry); need to train students with skills that are needed for a non-academic career.

B. We need to more clearly define the skill set that is developed in our students: What skill sets do our students have? What skill sets do we deliver? We do community well; we talk to each other well; need to focus this emphasis on students; we should expand their skill sets outside of their major; hear from employers that they see notable distinctive skill sets in our students: technical skills, tend to have good communication skills; good at working in teams from others from other areas of expertise; Need to more clearly define the skill set that is built through a UD education in a distinctive way

4. We define interdisciplinary differently than other institutions—integrative, cross unit/cross NSF directorate. We need to more clearly and intentionally advertise the multidisciplinary and disciplinary research that is done on the "academic side" of the institution.

5. We need to commit and invest in multidisciplinary research centers including TREND and SMART.

6. Build a facility that houses our centers—houses our faculty and centers; circular with spokes/corridors; synergy with teaching/learning/research/academics

7. Consider moving forward with Problem-based hires---hire for research capability to support centers, who can also teach X

8. Seek opportunities to improve linkage of community engagement efforts with academic areas of strength

9. Strong need for better marketing of academic research (non-UDRI research); UG/Grad research; multidisciplinary research; student-faculty research partnerships.

10. What is the most important factor in a faculty member's life? TIME
What is the second most important factor? STUDENTS
Need to change % of research effort; people and the funding to support the time that people need to invest

11. UD has no startups—need to grow the capability for faculty/UD to allow/facilitate technology driven start-ups.

12. Develop better strategies for research and student training collaborations in multidisciplinary projects between UDRI and academic research.

Other questions for consideration:

1. How is "distinctive" being defined? Where does the trade-off happen with regard to departmental distinctiveness vs. University distinctiveness in terms of strategic priorities?

2. How might what the sciences contribute to the University distinctiveness be congruent with departmental distinctiveness and therefore, warrant investment?

3. Question about prioritization and impact of non being prioritized: UD community is in tension with the idea of Prioritization—this is a culture shift. Investment in some areas of prioritization does not mean that those not prioritized at the University level will be

dissolved. The process will not generate decisions where a minority thrive and the majority dissolve.

4. Major/minor requirement: Is there an opportunity to develop Joint majors—doesn't require 60 credit hours, not a double major; such programs can build in EL/skills based development; especially useful for students who are less sure in the direction in which they will head. Allows student to have a secondary area of focus, with more depth than a minor. Design your own major.

5. Faculty student ratio for first year classes: Defining faculty student relationships: the way we approach teaching freshman is rooted in the Marianist tradition; first year courses are taught by tenure track faculty; How much is the university's identity invested in having tenure track faculty teach first year courses? Evidence is positively correlated with success in the discipline.

6. Is UD distinctive because on campus, there is a GE, Emerson, Midmark on campus? Need for cooperation/cross-pollination with GE, Emerson, MidMark etc. Unusual for a campus our size, like UD in the Midwest. GE and Emerson are intent on finding ways to interact with our students more directly and intentionally. E.g. OSU startups across the street

Concerns:
Faculty are overworked, under resourced, and are being held to higher and higher research expectations without building capacity; asked to do more with less; concerns with burnout and workload considerations.

Science Center facilities are inadequate for current needs---how will we compete in the future for students, faculty and grants if we do not invest in the facilities?

Appendix G: School of Business Administration Strategic Visioning Discussion Notes

SBA faculty/staff meeting on Tuesday, October 25

Working group 3 topics to consider:

1. Regarding more research areas for UD to consider:
   Poverty/Inequality
   Artificial Intelligence (in the broadest sense, e.g, self-driven autos, etc.)
   Wealth Distribution
   Social Justice
   Undergraduate Research
   Innovation

2. Consider the UN list of important world trends/topics, Management Education and the Sustainable Development Goals

3. Futuristic questions:

   Will universities still have the same research role?
   (or will research be done by other entities and universities move toward more of a focus on teaching?

Appendix H: Working Group 3 Midterm Report

Midterm Report
Strategic Visioning Working Group 3
October 28, 2016

How We Discover and Engage:
Visioning the Future of Our Research, Scholarship, and Creative Activity

Members of Working Group 3:
Co-chairs: Vijay Asari (Electrical and Computer Engineering; Vision Lab); Carissa Krane (Biology, Schuellein Chair)

ECAS-nominated faculty representative: Shuang-Ye Wu (Geology)

Student member: Sumant Grover (doctoral student, Biology)

Other faculty and staff members: Susan Davies (Counselor Education); Ellen Fleischmann (History, Alumni Chair); Fred Jenkins (University Libraries, dean's office); Jack Kanet (Operations Management, Niehaus Chair); Sukh Sidhu (UDRI and Mechanical and Aerospace Engineering)

President's Council liaison: John Leland, Research

Our Charge:
In which ways and in which multi-disciplinary areas will the University's research, scholarship, and creative activity achieve their greatest influence in addressing the profound human challenges and community needs in 20 years?

Deliverables:
•Three to four primary observations about its guiding theme from campus conversations
•Three to four strategic aspirations associated with the working group theme and a rationale for each of those aspirations

Summary of progress to date:
Initial Discussions:
Working Group 3 met five times to discuss the charge, as well as potential means and modes of engaging the UD community in the process. Early on in our discussions, we struggled with how to best approach engagement as well as how to dissect components of the charge in a way that would facilitate inclusive discussion and efficient and effective means of data procurement and analyses. Working Group 3 decided on employing the following initial strategies:

1. Provide a contextual framework for thinking about the impact of multidisciplinary research, scholarship, and creative activity using reports from international, national, federal, and professional societies that identify convergent themes and challenges that

will define our collective global future. The sources of this information included the following:

United Nations Sustainable Development Goals
http://www.un.org/sustainabledevelopment/sustainable-development-goals/
Pope Francis Encyclical on the Environment/Climate Change
http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html

National Endowment for the Arts: Challenges in the Arts in the 21st Century
https://www.arts.gov/NEARTS/2016v2-challenges-arts-21st-century

National Academy of Engineering: Grand Challenges for Engineering
http://www.engineeringchallenges.org/8996.aspx
http://www.engineeringchallenges.org/challenges/15583/15785.aspx

American Association for the Advancement of Science (2011). Vision and Change in Undergraduate Biology Education: A Call to Action, Washington, DC.
http://visionandchange.org/files/2011/03/VC-Brochure-V6-3.pdf
http://visionandchange.org/files/2013/11/aaas-VISchange-web1113.pdf

National Research Council of the National Academies (2009). A New Biology for the 21st Century. National Academies Press, Washington DC.
http://www.nap.edu/catalog.php?record_id=12764

American Association of Medical Colleges (AAMC)/Howard Hughes Medical Institute (HHMI) Scientific Foundations for Future Physicians. (2009)
https://www.aamc.org/download/271072/data/scientificfoundationsforfuturephysicians.pdf

2. Ground the themes/challenges that were identified from the published reports within the Marianist foundational principles and mission.
3. Develop a visual depiction of the challenges/themes and Marianist foundation.
4. Further define the broad question/charge as smaller discussion questions that would facilitate broad and futuristic thinking, conversation, and expression of a diversity of opinions.

These efforts resulted in the development of a one-page flier (attached) that was used to engage the community during the October 6 Visioning Day.

Process for engaging the UD community: Working Group 3 decided to use a multi-faceted approach for engaging the UD Community. We wanted to prioritize broad access to participation, multiple means for inclusive participation from all who want to participate, and convenient and efficient modes of ideas sharing.

1. Information Sharing:
    a. Vijay Asari volunteered to serve on the Steering Committee.
    b. John Leland is the appointed President's council liaison. John has also facilitated communication with those in charge of the Visioning Website.
    c. A Google Drive site was developed for broad sharing of information among members.

2. Information Gathering:
    a. Drop-In Visioning Sessions: 1-2 members of the committee are attending each of the drop in visioning sessions and sharing meeting notes with the group via Google Drive.
    b. Dream Board access: Requested that the Dream Board move to multiple locations on campus, including academic buildings.
    c. Visioning Website: Requested that the Visioning website be reorganized so that participation in the open response dialogue boxes did not require five sequential "clicks" to find.
    d. Direct engagement: Sumant Grover is engaging the Graduate Student Association/Graduate students directly in the process.
    e. Unit/Division Facilitated sessions reports will be solicited by working group co-chairs and will be provided to the working group members.
    f. The five discussion questions generated by working group 3 were posted on the UD Visioning website under Working Group 3, along with an open response dialogue box. (To date, we have received only 3 responses on this site.)
    g. Strategic Visioning Day Event on October 6:
    Working Group 3 hosted a facilitated luncheon discussion from 11:30am-1:00pm on Thursday October 6 in KU Ballroom as part of the Strategic Visioning Day events. Approximately 140 RSVPs were received in advance of the event. As participants filtered into the room, they were asked to get lunch from the soup/salad/sandwich buffet, and then be seated at a table where they were to begin discussing the charge, using, if they found useful, a flier that included the diagram and questions provided by working group 3 which were placed at each table. Each table was asked to identify a scribe to take notes from the table discussion. After approximately 45 minutes of discussion, the facilitator, Anita Moore, engaged the room in discussion. A representative from each table was invited to provide a brief summary of the discussion from their table. Following the discussion, each table scribe was asked to submit notes via email, or leave hand written notes/post its at each table which were then collected. Lauren Wright

transcribed and collated the notes and provided the comments verbatim, to
working group 3.

Preliminary Observations:

Following the Visioning Day luncheon, Working Group 3 met once to discuss the information obtained thus far in the process, as well as the next steps to be taken in order to complete the deliverables as requested. During our discussion, it was obvious that we are not ready to make firm recommendations on the charge to the Steering Committee. However, we decided that we would focus on three observational categories as they have emerged through the data we have obtained thus far in the process. These data have come from the Visioning website comments, the notes from the drop-in sessions attended by members of our working group, our group discussions, and the collated comments from the >140 individuals who attended and participated in the Visioning Day luncheon.

A. Initial Observations: Common Themes

It is quite clear that the members of the UD community are deeply interested and invested in the future of research, scholarship, and creative activity at UD. The following concepts/ideas/areas of emphasis are emerging as common themes:

1. Support for undergraduate research as an essential element of research, scholarship, and creative activity in the future is emerging as a strong point of consensus.
2. There is a strong and pervasive commitment to diversity and inclusion, and a strong recognition that Distinctiveness, Innovation, and Excellence in research, scholarship and creative activity is mutually aligned and synergistic with, and can only be attained, if we are a diverse and inclusive community.
3. There is a broad consensus that technology and computational capabilities such as virtual realities will continue to revolutionize our world, how we interact with one another, and the way in which we teach and learn, and that UD would be wise to commit to being leaders in this arena.
4. There is a broad recognition that the world of higher ed will continue to become more global in both access and expectation.
5. Sustainability is emerging as a multidisciplinary area of interest.
6. Concerns about the current quality of teaching/research facilities and space are pervasive and need to be considered in any plan for the future. Without a commitment to improving facilities, realizing a strategic vision in research and scholarship will not be possible.
7. There is need of "skill based training" that needs to be incorporated in the undergraduate and graduate curriculum.

B. Initial Observations: Discordant/Non-consensus Views

It is also clear that several concepts/ideas that have been proposed during this process are polarizing, with strongly held discordant views expressed in venues throughout the discussion.

1. Some have expressed a strong disagreement with prioritizing and resourcing multidisciplinary research over disciplinary research. This is an opinion expressed by faculty in various departments throughout the university. Alternatively, there are faculty

who are championing the need for multidisciplinary centers such as Hanley as being the future of the University.

2. There is a strong, and polarizing perception that the strategic vision is solely STEM-focused, at the expense of the Humanities and the Arts. In some cases, this has resulted in a focused discussion that is aimed at the preservation of the status quo rather than strategic visioning of the future. Alternatively, there are opposing opinions that argue that solutions to the major challenges of the future mandate the contributions of the Arts, Social Sciences, Humanities, Education and Health Sciences, Natural Sciences, Engineering, Business, and Law.

3. There is disagreement about the organizational structure of the University of the future. There are proponents of a matrix organization which dissolves departments, and support for cluster hires to address problem-focused areas of research. To the contrary, there are proponents of maintaining department/divisional/unit based structures, while removing institutional hurdles that exist for doing multidisciplinary research.

C. Initial Observations: Continued Challenges

From these initial discussions, the following continued challenges have emerged as common concerns:

1. There is an acute as well as a long-term need to develop mechanisms that will engage the university community in identifying the issues/topics/research questions/problems for which multidisciplinary strategies are needed, and discussions as to how multidisciplinary research can enrich, and not undermine, disciplinary research and expertise.

2. There is a logistical need to design and restructure the organizational reporting lines for research centers and institutes to be independent entities at the University level and not held within Units/departments.

3. There continue to be challenges to achieving broad, diverse and inclusive participation in the Visioning Process itself. There is a need to channel outside perspectives from employers and community partners into the working group discussions. There is also a need for engaging UG students in the discussion of scholarship/research and emerging challenges so that these perspectives can be incorporated into the report from working group 3.

4. Workload issues constitute a recurring challenge. There is a need for a more equal reconfiguration of the balance between teaching and research that promotes best practices for faculty to be teacher-scholars. We cannot be good teachers without being deeply involved in the research which informs our teaching. Concerns were expressed that the university will not be able to compete in the future without addressing this issue. It cannot aspire to stake a claim to playing a leadership role as an institution distinguished for its excellence in research and not just teaching unless this takes places. There is also a need to raise and provide the necessary resources to achieve these objectives.

Action Items:

After receiving feedback from the Steering Committee, Working Group 3 will continue to meet and discuss the current and future data that are obtained throughout the process, in advance of generating the final report.

Additional Resources:

NRC: Convergence: Facilitating Transdisciplinary Integration of Life Sciences, Physical Sciences, Engineering and Beyond
https://www.nap.edu/catalog/18722/convergence-facilitating-transdisciplinary-integration-of-life-sciences-physical-sciences-engineering
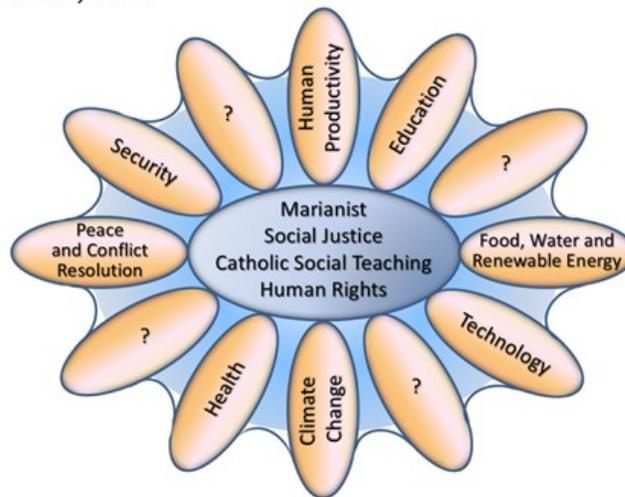Interdisciplinary Research: A series of articles featured in *Nature*
https://drive.google.com/drive/u/1/folders/0B6aQC6USOdSYckh6MlVzRU9SQ3M

Vision UD

How We Discover and Engage: Visioning the Future of Our Research, Scholarship, and Creative Activity

In which ways and in which multi-disciplinary areas will the University's research, scholarship, and creative activity achieve their greatest influence in addressing the profound human challenges and community needs in 20 years?

Strategic Questions:

1. What are the future global challenges that we will collectively face in the next 20 years? How will we, as a Catholic Marianist University, address and solve these issues through research and education in order to improve the world through a lens of social justice?

2. What will be our focus areas for research, scholarship, and creative activity? What is needed to successfully develop these areas?

3. What will we do to position the trajectory of our university to be dynamic leaders in addressing these emerging issues through the synergy between research and education?

4. How will the university create and implement solutions to real world problems locally, regionally, nationally, and globally?

5. How will our cutting edge research be used to inform and train our students? How will we prepare our students with the skills and sensibilities needed to adapt and dynamically solve emerging problems, with disciplinary expertise and multidisciplinary cooperation, in ways that are consistent with the tenets of Catholic social teaching and the Marianist tradition?

Contribute to the conversation at: http://bit.do/2DiscoverandEngage

As a Catholic and Marianist University, we will engage collaboratively, across divisions and units, through our research, scholarship, creative activity, and pedagogy, by synergistically applying our disciplinary expertise to multidisciplinary pursuits in order to solve real world problems.
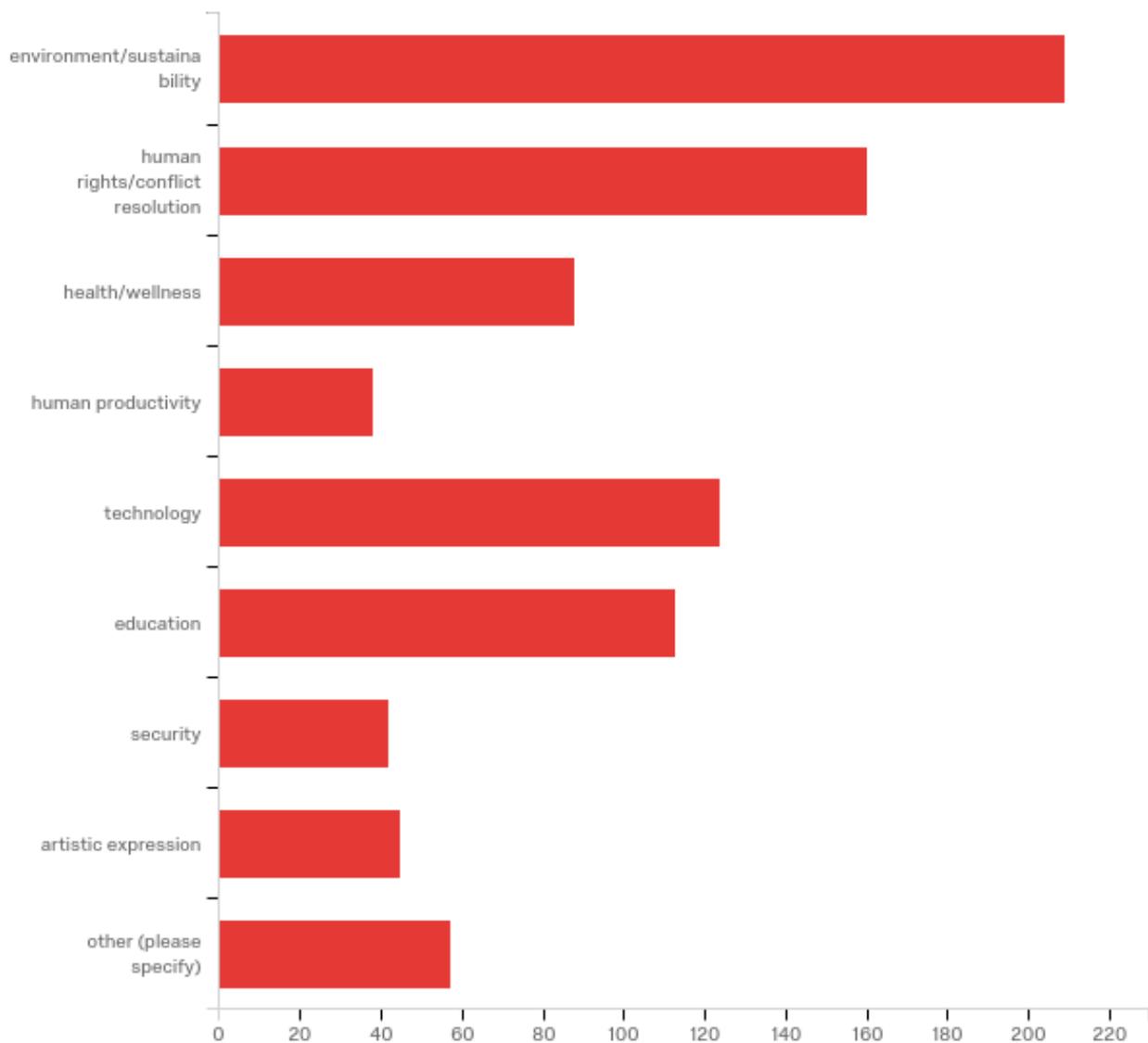
Appendix I: Working Group 3 Survey Results
Default Report
WG3 Data Collection
December 8th 2016, 9:13 pm EST

Q2 - In which of the following areas will the University's research, scholarship, and creative activity achieve their greatest influence in addressing profound human challenges and community needs in 20 years? (Please check all that apply.)

#	Answer	%	Count
1	environment/sustainability	71.09%	209
2	human rights/conflict resolution	54.42%	160
3	health/wellness	29.93%	88
4	human productivity	12.93%	38
5	technology	42.18%	124
6	education	38.44%	113
7	security	14.29%	42
8	artistic expression	15.31%	45
9	other (please specify)	19.39%	57
	Total	100%	294

Appendix J: Most Frequently Used Terms on Survey—Q3

Q3: Describe one specific multidisciplinary area of research, scholarship, and/or artistic expression and how it would be influential in addressing a future challenge or opportunity.

Appendix K: Most Frequently Used Terms on Survey: Q4

Q4: Specify how your own research or that of your colleagues, relates to your suggestion.