



Open Pathway Quality Initiative Report

Institutional Template

The enclosed Quality Initiative Report represents the work that the institution has undertaken to fulfill the quality improvement requirements of the Open Pathway.

Signature of Institution's President or Chancellor

Date

Deborah J. Curtis, President

Printed/Typed Name and Title

Indiana State University

Name of Institution

Terre Haute, Indiana

City and State

The institution uses the template below to complete its Quality Initiative Report. The institution may include a report it has prepared for other purposes if it addresses many of the questions below and replaces portions of the narrative in the template. This template may be used both for reports on initiatives that have been completed and for initiatives that will continue and for which this report serves as a milestone of accomplishments thus far. The complete report should be no more than 6,000 words.

Effective September 1, 2019, the report must be submitted by June 1 of Year 9. Prior to September 1, 2019, the report is due by August 31 of Year 9.

Submit the report as a PDF file to pathways@hlcommission.org with a file name that follows this format: QIRReport[InstitutionName] [State].pdf (e.g., QIProposalNoNameUniversityMN.pdf). The file name must include the institution's name (or an identifiable portion thereof) and state.

Date: August 19, 2019

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Report Categories

Overview of the Quality Initiative

1. Provide a one-page executive summary that describes the Quality Initiative, summarizes what was accomplished and explains any changes made to the initiative over the time period.

The overarching project goal was to remove curricular barriers for student success and provide undergraduate students with curricular pathways and experiences leading to graduation and future success. We approached this goal in three specific ways: 1) Math Pathways Revision, 2) Degree Structure Redesign, and 3) Competency-Based Curriculum Transformation.

Math Pathways were reviewed in all programs to ensure required math specifically met learning outcomes. We reworked degree maps and held advisor training to bring students into their Math Pathway as early as possible. This project was completed successfully and quickly within the project timeline. We have made progress and continue to refine ISU's approach to quantitative literacy and placement in the right pathway. Math Pathways has become a regular, unforced conversation.

Degree Structure redesign was used to increase flexibility for students by eliminating concentrations or building a larger core of coursework shared by concentrations or similar majors. The revised curriculum allowed students more exploration of the major before committing to a specific concentration, allowed for easy change between concentrations, or eliminated the concentration requirement through the creation of optional minors. The desired result was to help students graduate closer to or at the required 120 credit hours. Five programs were invited to participate and four completed work under this focus. Early indications show changes are attracting student interest, and credit hours at graduation are decreasing.

Competency-Based Curriculum Transformation involved high credit-hour programs that had only moderately changed over years. The goal was to rebuild courses and course sequences from a pure curricular development stance of outcomes and competencies, resulting in streamlined programs, improved course sequencing, and improved student success and earned credits at graduation. This work is still in progress. The Scott College of Business (SCOB) will implement a revised core curriculum for Fall 2020, with related course revisions beginning 2019-20. The Teacher Education program recently engaged in the process, with curricular changes likely occurring after Fall 2021. The College of Technology (COT) began the process with two departments and found greater work was needed on the outcomes and competencies before moving toward curricular change. The only project change was that at least one targeted program was not willing to participate, and the process took considerably more time than anticipated. Given the faculty have primary authority over the curriculum, the change in implementation timeline is not surprising; however, given this primary authority, what has been accomplished is an affirmation on the degree to which our faculty are concerned with student success.

Scope and Impact of the Initiative

2. Explain in more detail what was accomplished in the Quality Initiative in relation to its purposes and goals. (If applicable, explain the initiative's hypotheses and findings.)

This large-scale curriculum project and specific goals/purposes were identified to assist ISU to continue improving degree completion and the number of credits earned by students before graduation, and remove curricular barriers impacting student persistence and graduation. Each is described in detail below.

This quality initiative project had three specific purposes:

1. Math Pathways
2. Degree Structure Redesign
3. Competency-Based Curriculum Transformation

Math Pathways

Math Pathways was the first project target. The key was to build a common understanding that math knowledge and skill can be and is foundational for many academic programs. As we began this process, the Indiana Commission of Higher Education (ICHE) started discussions related to Math Pathways, and the Chair of our Math and Computer Science Department was serving as chair of an ICHE committee on this effort.

We kicked off this portion of the project with a workshop organized with the Math department. Every department chair that had courses with math prerequisites or had a required math class was invited. Additionally, we encouraged the academic deans and heads of academic advising to attend. During the workshop, the Math chair outlined the learning outcomes for each course (i.e. remedial algebra courses, college algebra, trigonometry, statistics, and calculus), as well as what skills were necessary for a student to be able to be successful in a course (i.e. what prerequisite math skills were needed and in contrast, not needed). During the workshop, faculty were able to compare their learning outcomes for their program and their existing math prerequisites to determine alignment. We ended the workshop with a discussion for chairs and advisors about the most appropriate time for students to begin their math sequence, largely to help advisors understand that encouraging students to wait until their sophomore or junior year to complete their math is not in a student's best interest.

There were several immediate outcomes to the workshop:

1. Several statistics courses changed the prerequisites for their courses. All statistics courses now have an appropriate placement test score or MATH 035 Fundamentals of Algebra II.
 - a. AHS 340 Biostatistics did not previously have any prerequisite but students were not advised to take the course until the junior year. Students would therefore complete a foundational studies math requirement that did not necessarily prepare them. The department also sought and received the Quantitative Literacy classification so the course would fulfill the university Foundational Studies requirement and the course was moved to the first year in the degree map. (Effective Spring 2017)

- b. EPSY 302 Introduction to Applied Psychological Statistics made the same changes as above with the exception of seeking Quantitative Literacy classification. (Effective Spring 2017)
 - c. The Psychology department took a different tactic. They recognized how many students move to a Psychology major during their sophomore year or later. Knowing that students would have already fulfilled their Quantitative Literacy requirement for Foundational Studies, they increased their statistics course by 1 credit to build in any foundational content necessary to help with student success. (Effective Fall 2016)
2. Majors with college algebra as the final math requirement examined the rationale for that requirement.
- a. The COT had college algebra as the final course for several of its majors, and college algebra and calculus for others that also required a physics course (which required calculus). The catalog language was written such that a student who placed into calculus, or had credit for calculus (dual credit or AP) still had to take college algebra. This problem has been fixed. Many of these programs were previously accredited by ATMAE. As these programs move to accreditation by ABET, they have been looking more at their outcomes and started the process of programmatic revisions to account for differing math skills (option of calculus *or* college algebra with applied calculus along with a statistics course). Some of these revisions went into effect Fall 2017 and others are ongoing.
 - b. The business core for the SCOB identified a significant number of programs that had college algebra as the highest math course. Students are required to take college algebra and then 2 classes of business statistics (and as indicated above, college algebra is not an appropriate prerequisite for statistics). As a result, Business is revising their core, which will include the elimination of college algebra in favor of a new quantitative literacy course and revised business statistics courses to strengthen analytical skills. These revisions are planned for Fall 2020.
3. Changes to student degree maps
- a. Freshmen are advised by professional advisors in the University College. Since Fall 2012, degree maps are used to map student progression through degree programs. The University College focuses on ensuring student progress to the second semester and then on to the sophomore year, successfully completing 30 credit hours and remaining in good standing. Math is often an obstacle to our students with high rates of poor or failing grades, and a high rate of course withdrawal (DFW rate). It is entirely reasonable that advisors and programs created degree maps that pushed math off until the second year. With the Math Pathways workshop, we were able to create better understanding that math skills and knowledge are fungible and the importance to put students into their appropriate pathway early in their academic career. To that extent, degree maps have been revised to place programmatic math requirements (required by major or Foundational Studies) in the first year.

Degree Structure Redesign

Knowing that curriculum can often be a barrier that adds time to a degree for students, degree structure redesign was part of the project. About a decade ago, the institution went through a program priority process. The end result was that a number of low enrolled majors were eliminated, or condensed. However, the process of condensing majors resulted in the development of concentrations whereby majors were revised to have small cores, and students selected a concentration to complete their major. Often, it was difficult to move from one concentration to another within the same major. Additionally, advising a student was often difficult until the student formally declared a concentration (i.e., declare major and then declare concentration). The goal of the redesign was to move concentrations out of the majors, turn them into optional minors that would be available to students inside or outside the major, and leave a core that represented the major content area such that a student who was not able to complete both the major and minor could graduate with just the core. Four majors completed this task (albeit in slightly different ways than originally intended or planned).

1. The Criminology major was the first participant. It did not have a specific problem/barrier with its 4 concentrations (33 credit hour core and 9 credit concentrations), and was not originally a target program. However, during 2016-17, the departmental faculty brought forward a program revision that would add 9 credit hours to the major (moving it from a 42-credit hour major to 51). The additional courses were found to be necessary because their outcomes assessment analysis and review with employers found their graduates needed additional experiences with advanced, profession-oriented writing and analysis. A discussion was held with the department about options that would not add 9 credit hours to the degree, and the option to change their concentrations to minors was presented and accepted. Four 15-credit hour minors were created (2 courses from the core and the existing 3 from the concentration) that are now available to all majors, and the concentrations were eliminated.
2. The SCOB Dean's office was interested in streamlining their degrees and increasing student success. When the Management program approached the Associate Dean to discuss creation of a number of management-oriented concentrations for the major, she directed them to me for a conversation on how minors might be a better option. During the 2017-18 academic year, faculty worked on the curriculum that became effective Fall 2018. With the Fall 2018 catalog, students complete the 50-51 credit hour Business Core, complete a 24-hour management major comprised of a 9-credit hour core, and select 1 of 2 newly created management minors (Entrepreneurship or Human Capital Management), complete another minor approved by the advisor (allowing students to focus on an area appropriate for career interests), or complete 15 credit hours of advisor-approved electives. This provides multiple paths for students, as well as an escape hatch for the student who needs to graduate more quickly.
3. About a decade ago, the majors of Anthropology, Geology and Geography merged into 2 new majors - Human & Environmental Systems (with concentrations in Anthropology, Geography, and GI Science) and Earth & Environmental Sciences (with concentrations in Atmosphere and Surfaces Processes, and Geosciences). The cores were not comprised of courses that students in all of the concentrations REALLY needed. Furthermore, there was so little overlap in the concentrations, students who decided to switch a concentration often added a semester or more to their time to degree. Faculty also found that students did not know what the degree names meant and therefore were not seeking them; employers also did not often know what these degree names meant. The department that housed these 2 majors entered a period of several years of negotiation and planning with the College of Arts

& Science Dean's office and Academic Affairs, and it was finally determined to break apart everything and create 4 new majors – Anthropology, Environmental Geoscience, Geography and Sustainability, and Geology. Overall, credit hours were reduced by 8-18 credit hours.

4. The Recreation and Sport Management major was another merged major as a result of program prioritization. This amalgamation of majors resulted in a core of 9 credits and 4 concentrations ranging from 36-60 credit hours, with little coursework common across the concentrations. The 4 concentrations were Recreation and Youth Leadership, Recreation Therapy, Sport Management, and Nonprofit Leadership. Three years of discussion between departmental faculty, the College of Health and Human Services dean's office, and Academic Affairs resulted in a degree structure change that will go into place Fall 2019. The major was split into 2 new majors – Sport Management and Recreation Management & Youth Leadership. Sport Management is now a major comprised of 45 credits. The Recreation Management & Youth Leadership major is a core of 30 credits and 2 concentrations (Youth Leadership for 18 credits and Recreation Therapy for 39 credits). Student flexibility in changing concentrations was improved and courses were better aligned with student outcomes and career readiness goals.
5. The final program that was an actual target for this portion of the project never came to fruition. The Health Science major has 4 concentrations with a relatively small core of 18 credits compared to overall major credits of 69. Unfortunately, that department has seen multiple department chair changes and it was not possible to reach any faculty agreement on curricular changes.

Competency-Based Curriculum Redesign

This portion of the project was the most ambitious. We asked college and departmental leaders to consider how they might complete a full curriculum revision built on student outcomes and outcome-based competencies. The purpose was to have faculty consider what students should know and be able to do, rather than focus on current courses and structures. We offered the units any type of support they might need; in particular, we offered to support external curriculum specialists and content experts as needed to guide their work. Over the course of the last three years, three colleges agreed that they needed to consider this type of curriculum revision.

1. The first college to ask to participate in the redesign process was the COT. They formed a leadership team with the chairs of three departments and the Dean's office. This team first worked to determine the scope, impacted programs, and their goals in this process. A consultant (Dr. Gloria Rogers) was hired to help them better understand the use of outcomes as a basis for curriculum. Early in the goal-setting process, one department dropped out. The goal was to identify common outcomes across the remaining 2 departments and multiple programs to develop a set of common core courses. This would allow students to more easily move between programs in their first years without adding time to degree. The leadership team in COT presented the following project goals to the faculty:
 - a. Create course objectives and performance indicators that will be formally adopted by the departments.
 - b. Inform faculty on the content of program courses.
 - c. Identify the prerequisites needed, if any, based on outcomes.
 - d. Identify curricular overlap.
 - e. Reduce time to degree completion.

During the consultation with Dr. Rogers, it became clear that there was a great deal of work to do with the faculty to help increase understanding of outcomes, assessment of outcomes, and how to build a common faculty understanding of the outcomes. As a result, the first faculty retreat not only introduced the project goals as presented above, but asked each faculty member to bring the materials for one course to walk through a process of creating performance indicators and course objectives.

Following this retreat in March 2017, faculty in the 2 departments were charged to create performance indicators and course objectives for every course that students take in their first 2 years of the major. The work was shared at department meetings with all faculty for critique and given to Dr. Rogers for feedback and critique. The resulting work from Summer 2017 was shared at a second faculty retreat in September of 2017. The goals of the second retreat facilitated by Dr. Rogers were to identify common objectives and identify where changes could be made to support student success.

While the work from both retreats and in the intervening period did not fulfill all of their project goals (or the goal of curriculum redesign), the leadership team and participants indicated that bringing faculty together to discuss their curriculum work was invaluable. This sentiment was echoed by Dr. Rogers who relayed that some hurdles had to be overcome in this process, specifically, building a common understanding of course outcomes and programmatic outcomes across the faculty. Discussion continues on merging two entry level courses (taught in each department), exploration of Math Pathways, and building student success in the Math Pathways. A curriculum revision for the 2 programs in Electronics and Computer Engineering Technology department is underway that creates a common set of courses between the majors in the department.

2. The SCOB also agreed to participate in the curriculum redesign process. Their focus was specifically on their business core. They adopted three desired goals, and the entire faculty participated in multiple retreats and planning sessions. The College began their work with a content consultant, Dr. Karen Tarnoff from Eastern Tennessee State University. The goals were:
 - a. Rework the business core based on competencies
 - b. Create rubrics to measure core, program, and career readiness goals
 - c. Create one master plan for assessment

All three were addressed simultaneously. With the consultant, faculty reviewed the competency needs of the college and AACSB. They examined their Math Pathway (currently college algebra and two business statistics courses). SCOB faculty worked with Math faculty to design a new quantitative literacy course that would serve as a prerequisite to the first business statistics. Second, faculty revised the business statistics courses to focus on a progressive combination of spreadsheet skills, statistical understanding, and analytics. All three course revisions are in process and will be approved for Fall 2019 (new course) and Spring 2020 (course revisions).

The business faculty also determined that the requirement of two classes in Economics (Micro and Macro) exceeded the required and desired competencies. The faculty examined the range of courses offered by the Economics department and determined that an existing

Principles of Economics course would be a good fit. Unfortunately, this proposed change was opposed by Economics faculty which felt both courses were needed. The SCOB and Economics is still in discussion on how to best meet the needs and expectations for Business majors.

The final phase in which faculty are engaged (and somewhat dependent upon resolution of the Economics issue) is the development of comprehensive rubrics to support a college-wide master assessment plan. The rubrics also focus on career readiness skills and include: Problem Solving, Global Business, Written Communication, Oral Communications, Ethics, and Professional Skills.

3. The Bayh College of Education (BCOE) elected to join the curriculum redesign effort in Summer 2018. New leadership in the college and the teacher education program identified a number of barriers to success in the initial teacher preparation program. A plan was developed to: gather information on the needs of our state and what other highly effective teacher preparation programs were doing; identify specific competencies for the programs; and, present program possibilities to the faculty for adoption.

The initial work from Fall 2018 has led the faculty to start to identify those competencies that are critical for the beginning teacher (beyond the broad ones developed by national standards settings group). Working with best practice literature, faculty, and participants from the field, they are now prepared to pilot test several curricular innovations prior to implementing curriculum change in the 2019-20 academic year. These activities include:

- a. Video capture of clinical experiences to expand observation and group discussion of teaching (typically considered a medical school approach).
- b. Expand the field work in the required Behavior Management class for Special Education majors and minors.
- c. Year-long immersion for student teachers to better understand the dynamics of the whole classroom.
- d. A freshman year transition course for new students.
- e. A combined course for elementary and secondary majors at the sophomore year.

Additional Related Work — Career Readiness and Experiential Learning Outcomes

This purpose was originally presented as two separate outcomes and were not the main focus of the QI, but rather strategic plan goals that we wanted faculty engaged in the curriculum redesign to remember and consider. With Career Readiness Skills, significant opportunities came to the university during the project timeline that brought this work to greater prominence, in particular a grant from the Lilly Endowment, Inc. to improve student career readiness.

While the grant has many facets, the focus on career readiness and the curriculum was first embedded in the new strategic plan, “*There’s More to Blue – 2016-2021*”, Goal 2, Experiential Learning and Career Readiness: Engage all students in applying the knowledge and skills learned in the classroom to real-life settings (see <http://irt2.indstate.edu/cms7/sp16/index.cfm/goal-2/overview/>), and reinforced in Goal 4 related to Distinctive Programs. During the time period of the Quality Initiative Report, the focus on career readiness was strengthened in a May 2018 revision of the Strategic Plan and processes were implemented to help programs identify and implement career readiness skills.

- Evaluate the impact of the initiative, including any changes in processes, policies, technology, curricula, programs, student learning and success that are now in place in consequence of the initiative.

Many factors can disrupt student progression that are beyond faculty control; however, faculty have primary authority of the curriculum and need to wield that authority for student success. We will continue to track credit hours at graduation and degree progression data for these; unfortunately, ISU, is not unlike other institutions in that it is not singular in its initiatives, making it difficult to provide 100% attribution to any one activity. Yet, examining trends and data is important, as is the continual examination of outcomes and helping faculty understand ways to consider broad outcomes in terms of specific competencies. In that regard, it is truly amazing to consider that SCOB faculty examined its business core — a core that is almost identical across all professional colleges of business — and determined that a math, statistics and economics approach might need to be different to meet the competencies.

The change in enrollments is striking with the work on Math Pathways.

College Algebra Enrollment:

Term	End of Semester Enrollment	% Drop/Fail/Withdraw
Fall 2016	657	32.7%
Fall 2017	636	31.2%
Fall 2018	415	41.9%

Statistics Enrollment

Term	EOS Enrollment	% Drop/Fail/Withdraw	% of By Class Rank
Fall 2016	554	18%	13.3% Freshman 37.5% Sophomore 30% Junior 21% Senior
Fall 2017	606	15.9%	31.2% Freshman 35% Sophomore 20% Junior 13.7% Senior
Fall 2018	646	21.3%	39.6% Freshman 31.1% Sophomore 16.7% Junior 12.5% Senior

While the increased DFW percentage for both classes in Fall 2018 bears further examination, the change from enrollment in college algebra to increased enrollment in a more appropriate Math Pathway of statistics (with improved prerequisites) is clear. The data show the shift of enrollment in the Math Pathway to the freshman year, which moves a student along the degree path quicker.

Although the curriculum transformation projects are still in process or did not result in outward curriculum change at all at this stage (COT), there are initial indicators that the curriculum redesign projects are having an impact on student degree progression.

The Criminology program changes (elimination of concentrations in favor of optional minors) went into effect Fall 2017. At this point, it is too early to truly assess the impact on students; however, 22 students shifted to the new catalog and have graduated, which shows that the new major was appealing enough to update catalog year for these students. Sixteen of these students graduated with an average of 124 credit hours. In contrast, criminology majors who stayed with previous catalog years (that required concentrations) graduated with an average of 126 credit hours. Again, it is too soon to say if this is a definitive improvement; however, it is trending in the correct direction, and the curriculum redesign helped current students in their junior and senior years.

While it is too soon to evaluate the effectiveness of the degree transformation for Management (elimination of concentrations for a required minor of student choice), the following table represents those who are taking advantage of the new major and associated minors.

Program	Total Students	Mgmt Majors	Non-mgmt majors
New Mgmt Major	51	12 admitted before Fall 2017* 39 admitted Fall 2017 or after	
Entrepreneurship Minor	19*	13*	6*
Human Capital Mgmt Minor	4*	1*	3*

* Students had to formally declare new catalog year

The new majors in Earth and Environmental Systems just went into effect with the Fall 2018 catalog so it is too soon to determine effectiveness on completion and impact on total credit hours; however, it is interesting to note the high interest level in several of these majors by new admits, as well as the number of students who purposely changed catalog years to take advantage of these degrees.

Program	Students starting in Fall 2018	Majors who changed catalog years	Total	Admitted for Fall 2019
Anthropology	5	11	16	19
Envn'tal Geoscience	10	8	18	25
Geography & Sustainability	9	4	13	9
Geology	3	16	19	0

What is a less tangible impact is the change in faculty discussion regarding curriculum. The Faculty Senate standing committee that reviews all undergraduate curriculum increasingly questions

curriculum that appears to place barriers in front of students or builds complexity into curriculum. Committee discussions are mostly focused on how the curriculum will directly impact students and suggestions on ways to eliminate student barriers.

4. Explain any tools, data or other information that resulted from the work of the initiative.

No specific tools, data, or other information resulted from the work beyond the revised curriculum.

5. Describe the biggest challenges and opportunities encountered in implementing the initiative.

The biggest challenge of this project was to address curriculum, for which faculty have primary authority. ISU has a strong history of faculty governance and faculty are protective of their authority over curriculum. Fortunately, there is also a level of trust and cooperation with administration in terms of curriculum. The institution had already been required to ensure undergraduate curriculum did not exceed 120 credits without permission from the Indiana Commission of Higher Education. Colleges also had a charge from former President Bradley and the Board of Trustees to keep undergraduate majors under 72 credit hours, and that all majors could be completed within 6 terms.

This climate provided the opportunity for administration to offer support to deans to update, modify, or streamline curriculum of key programs to meet challenges identified by accreditors, employers, and student learning outcomes. This invitation was then extended to Associate Deans responsible for curriculum, and then to department chairs as opportunities were revealed. Promulgating the invitation created the next challenge. Programs saw opportunities to garner some resources for curricular work that might not bring real change. It was often necessary to redefine the scope or administrative expectations of the project, while also recognizing that the program may be improved even if the full desired outcomes were not met.

In the end, the challenges of the project have led to the greatest opportunity — faculty authority of the curriculum and shared governance has led to broader discussions of curriculum and a focus on student success.

Commitment to and Engagement in the Quality Initiative

6. Describe the individuals and groups involved at stages throughout the initiative and their perceptions of its worth and impact.

Stage 1 – Inception of Plan (September 2015)

A group of faculty, department chairs, and college administrators met as an initial planning group to work through the concept of a curriculum-focused Quality Initiative project. The individuals covered all 5 academic colleges, as well as the library, and the Registrar's Office. The committee was used to review the concept, formulate the proposal, and serve as ambassadors to their colleges for target programs.

Stage 2 – Concept Presentation to College Leaders

In November 2015, the draft proposal was presented to the Provost Advisory Council (direct reports to the Provost, including academic deans) to gauge interest in participation. The draft proposal was then presented to the associate deans responsible for academics in each college to make sure they understood the purpose and to gather feedback on feasibility and willingness to spearhead projects in colleges.

Stage 3 - Initial Targets

After QI approval in early 2016, the SCOB and the COT (Dean's offices and leadership teams) identified consultants to assist with the curriculum transformation, and received training from the Assessment Coordinator on how to design outcomes-based curriculum.

Stage 4 – Math Pathways

In April, 2016, a workshop on Math Pathways was conducted by Associate Vice President of Academic Affairs and the Math chairperson, and targeted Math faculty. All department and program chairs who had programs with a math requirement attended, as well as the associate deans responsible for academics.

Because the Math Pathways are managed best at the point of student matriculation, the freshman advisors were surveyed to determine their understanding and acceptance of the changes. Thirty out of 34 advisors indicated they were aware (strongly agree = 19, agree = 11) of the Math Pathways required for each major. Seventy-nine percent agreed that their advisees were doing better by starting the pathways earlier (strongly agree = 21, agree = 6, neither agree nor disagree = 7). Advisors were more personally ambivalent about the Math Pathway with 64.7% indicating they liked the pathways (like a great deal = 8, like somewhat = 14, neither like or dislike = 13). Finally, advisors were asked if they understood the pathways. Thirty-two of 34 indicated agreement or strong agreement (strongly agree = 17, agree = 15). Given the initial pushback about moving math earlier in the degree map, this feedback demonstrates that the advisors who work with our matriculating students understand and are implementing the pathways.

Stage 5 – University Promulgation

Recognizing the importance that the university community had knowledge about this project, several communications occurred. The first was in Spring 2016 in a newsletter from President Bradley to the campus community. In Fall 2016, it was discussed at the President's Council (a group of about 50 director level and higher administrators from all divisions on campus). Finally, in August 2017, it was a focus of the Academic Affairs retreat, which brings together everyone in the Academic Affairs division from the level of department chair, up through Provost.

Stage 6 – Development

The following participated as programs revised their Math Pathways, changed their degrees to eliminate barriers with concentrations, and worked to transform the curriculum:

- Departmental faculty
- Department chairs
- Associate Deans for Academics
- College curriculum committees
- University curriculum committee
- Faculty Senate

7. Describe the most important points learned by those involved in the initiative.

The key point learned (implicitly or explicitly) is that the primary authority for the curriculum extends beyond the program faculty (faculty with a small f). The primary authority is truly the domain of the entire faculty body (Faculty with a capital F); a responsible Faculty uses outside viewpoints to test curricular assumptions. A curricularly responsible Faculty considers the needs of students and future employers when re-designing curricula.

Given the extent to which legislatures have been willing to impose mandates on state universities (statewide general education, single pathway transfer articulations, etc.), the realization by faculty that they can still control their curricular destiny in a meaningful way is a revelation. Furthermore, the understanding that when learning outcomes form the basis for curricular changes, there are many resources available to help with significant curriculum change, and to ensure the changes are understandable to all constituents (most importantly students and advisors). However, we never achieved the point where faculty could throw out what is done currently and re-build curriculum from the outcomes.

Because curriculum committees change every year, it is difficult to quantify to what extent the additional questioning and concern about curriculum is a function of the faculty on those committees, or a change in approach. Regardless, the fact that faculty feel empowered to question curricular changes, and provide suggestions on how to better organize and consider curriculum in programs NOT their own, is encouraging.

Resource Provision

8. Explain the human, financial, physical and technological resources that supported the initiative.

The resources engaged in this project were primary human capital, with financial support. All curriculum changes involved multiple faculty members. Each of the curriculum changes explained in #2 involved at least 2 or 3 faculty members, the department chair, dean's office staff, Academic Affairs personnel, and 3 or 4 staff in the Registrar's office. More significant curriculum changes – the curriculum transformation projects in COT, SCOB, and BCOE, as well as the degree transformation in Earth and Environmental Systems – involved entire departments in discussions and negotiations. In the case of the SCOB, the entire college faculty participated in the work on the business core.

In addition to faculty, we utilized the services of 2 consultants to help focus their work and guide their direction.

The table below shows the expenditures for this project:

Specific Project	Purpose	Amount
SCOB	Consultant – Dr. Tarnoff	\$6,051.21
COT	Consultant – Dr. Rogers	\$7,125.00
COT	Faculty – stipends	\$18,250.00
BCOE	Dept – Course buyout	\$30,000.00
Total		\$43,176.21

A number of peripheral faculty and staff were also drawn into the conversations and work. Math faculty devoted time to the organization of the Math Pathways workshop, as well as to the SCOB to design a course to meet those learning objectives. Faculty from Economics became involved in the discussion to modify the economics requirements in the SCOB. Additionally, staff from the Assessment Office and the Registrar's Office were utilized to consult on assessment strategies for these revised programs, as well as practical considerations for students within degree audits and program transitions for the more extreme changes.

Plans for the Future (or Future Milestones of a Continuing Initiative)

9. Describe plans for ongoing work related to or as a result of the initiative.

We continue the process of examining our curriculum and encourage revisions that are meaningful and eliminate barriers to students. The BCOE's teacher education program came late to the QI table. While we reviewed their project under the auspices of the QI project, we recognized that the work would not be complete before the time of our report and we aren't likely to have curriculum revisions in place prior to the re-affirmation visit. However, the institution supports this ongoing work to remove curricular barriers and help programs engage in self-examination.

Another important element that will be ongoing (and hopefully a permanent change) is to modify the dialogue of faculty and staff during the curriculum change review process. Increasingly, faculty in curricular governance question the relevance of changes against student benefit. They regularly question program length and complexity. Some of this questioning has morphed into the graduate curriculum reviews as well.

Another outgrowth has been the continued growth with Math Pathways. In 2005, ISU was one of the first institutions in Indiana to launch a quantitative reasoning course. A number of others followed and the course is now in the Indiana Core Transfer Library with 9 other transfer partners. In Fall 2018, Foundational Studies reviewed and revised the Quantitative Literacy requirement (which include the QR course as an option); these changes were approved late Spring 2019. The Math department has developed a more robust quantitative literacy course that will be required by the Business Core, and Math faculty are working with our dual degree partners and community colleges in Indiana to develop transfer courses for this course.

While initially tangential to this project, programs have continued to consider how to integrate career competencies into their curricula. Most notably, the SCOB curriculum transformation project has specifically placed career competencies into their planning. Additionally, the BCOE teacher preparation program is using feedback from their advisory group (principals who hire graduates) to ensure students are prepared for their classrooms.

Finally, there is one program within the College of Health and Human Services that was a target of this project. Despite early interest in participating, key faculty were not interested in considering

changes to their program. However, the conversation continues as we continue to explore curricular barriers to student success. Additionally, a new dean of the COT began in August 2019 with some interest in returning to the COT project for continued attention and expansion.

10. Describe any practices or artifacts from the initiative that other institutions might find meaningful or useful and please indicate if you would be willing to share this information.

Indiana State University is happy to share anything from this project. Material that might be most helpful would be related to the Math Pathways work, the communications and evaluations regarding career readiness, and our manual for curriculum approval.