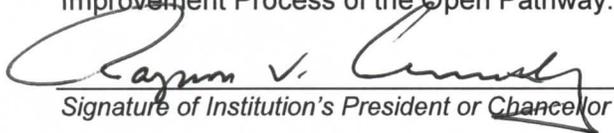




Open Pathway Quality Initiative Report

Institutional Template

The enclosed Quality Initiative Report represents the work that the institution has undertaken to fulfill the Improvement Process of the Open Pathway.


Signature of Institution's President or Chancellor

August 29, 2018

Date

Dr. Raymond V. Cummiskey

Printed/Typed Name and Title

Jefferson College

Name of Institution

Hillsboro, MO

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.

Quality Initiative Reports are to be submitted by August 31 of Year 9. HLC recommends that institutions with comprehensive evaluations in the first half of Year 10 submit their report at least six months prior to their Assurance System lock date. Submit the report as a PDF file to pathways@hlcommission.org with a file name that follows this format: QI Report No Name University MN. The file name must include the institution's name (or an identifiable portion thereof) and state.

Date: August 29, 2018

Contact Person for Report: Dr. Kimberly M. Harvey

Contact Person's Email Address: kharvey@jeffco.edu

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.

Jefferson College's Quality Initiative (QI) was to implement an attendance/participation tracking system to collect required data for federal financial aid regulations and leverage the institutional committee structure to analyze data and submit action plans to implement student retention initiatives. The QI included the following five phases: 1) Design and implement an attendance/participation tracking system; 2) Enhance automation of the attendance/participation tracking system; 3) Provide data to the appropriate institutional committees to analyze, followed by submission of action plans by the institutional committees for student retention initiatives; 4) Implement student retention initiatives; and 5) Begin to evaluate student retention initiatives.

Phase I (AY2013-2014)

During Phase I, the College piloted and implemented the [Student Participation System](#) (SPS), an attendance and participation tracking system that was developed in-house. The SPS allowed faculty to record attendance data for face-to-face courses. A process was also developed whereby academically-related participation data from Blackboard automatically populated the SPS for online courses. Faculty feedback was solicited over the year to enhance the SPS. Various training sessions were offered for full-time and adjunct faculty.

Phase II (AY2014-2015)

The College piloted and implemented the use of [card readers](#) to electronically collect attendance data in four large lecture halls. [Color-coded status indicators](#) were also developed, which reflected a student's standing based on attendance and participation data. Each student was assigned a color-coded status to indicate good progress, a warning, an early alert, or eligible for administrative withdrawal based on the SPS data.

During Phase II, the College did not implement automated messages to students. Faculty were required to submit attendance and participation data each week by Sunday evening at 11:59 p.m. Concerns were expressed by faculty and staff that students may contact faculty members daily if they did not see attendance/participation for that specific day, especially since it impacted students' financial aid.

Phase III (AY2015-2016)

This phase included the rollout of the color-coded status indicators and the implementation of a new [administrative withdrawal policy](#). Students who stopped attending and/or participating in one or more courses for 15% or more of the course were eligible for administrative withdrawal. During Phase III, an institutional action plan was also submitted to pilot the use of a [Learning Analytics Processor \(LAP\)](#) and to coordinate a strategic planning retreat with institutional committee representation to identify the demographic, academic, and participation data that would be used in the LAP. The strategic planning retreat was held with 15 representatives from six institutional committees. During the strategic planning retreat, the College determined the best focus was on implementation of a LAP and did not identify report priorities. Additionally, two faculty members performed statistical analyses to review the impact that attendance and participation had on student retention and success at the course level.

Phase IV (AY2016-2017)

As a result of institutional challenges related to accessing course level data, the College was unable to move forward with the Learning Analytics Processor and transitioned into developing its own predictive model. After the strategic planning retreat, a Data Analysis Task Force and a Student Intervention Task Force were created.

Phase V (AY2017-2018)

Two psychology faculty piloted the use of the [predictive model](#) in five 16-week, face-to-face, General Psychology courses. These faculty were provided with an Excel file with the predictive model for each student at the beginning of weeks 1, 4, 7, and 10. Students who were identified as at-risk were provided outreach by both faculty and Student Services staff beginning with week 4. Evaluation of the pilot project identified that intervention in the fourth week of the semester was too late to impact student success and course completion.

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.)

Goal #1: Implement an attendance and participation tracking system

The first goal of Jefferson's QI was to implement an attendance and participation tracking system that was compliant with FERPA and Title IV regulations. After faculty and staff representatives vetted the new process for attendance and participation tracking, Information Technology staff developed a user-friendly tracking system that allowed faculty to electronically record attendance in face-to-face courses. They also developed a process whereby academically-related participation data from Blackboard was automatically populated into the Student Participation System (SPS). After faculty members piloted the new system in summer 2013, the SPS was implemented in fall 2013. During the first year and in subsequent years, the Registrar's Office solicited faculty feedback to enhance the SPS.

Goal #2: Train all faculty on the new tracking system

Training was an essential element to ensure that faculty were provided direction on how to use the new system. When the SPS was implemented, the Registrar, Director of Student Financial Services, Senior Director of Online Learning & Assessment, and Manager of Software Development provided mandatory training for all faculty. Since AY2013-2014, training has been offered through Opening Week (orientation) sessions, Adjunct Professional Development Seminars, JC101 online adjunct training modules, and through individual sessions, as needed. Additionally, a [video](#) on how to access and use the SPS was created for faculty and revised when updates were made to the system.

Goal #3: Collect attendance data with a 100% compliance rate

The third goal was to collect data with a 100% compliance rate. During the first semester of the new system in fall 2013, faculty members submitted attendance and participation data with an 81% compliance rate during the first week, 92% compliance rate during the second week, and 95% compliance rate during the third week. Since that time, faculty compliance rates have ranged from 96% to 99% each week. A weekly process was established to ensure that missing attendance and participation data was collected in a timely manner.

Goal #4: Better define institutional policies related to attendance and participation data, including research and possible policy development on administrative withdrawals

The fourth goal was to better define institutional policies related to attendance and participation data. An Administrative Withdrawal Task Force was developed. This task force conducted a [campus survey on](#)

[administrative withdrawals](#), researched policies at other institutions, developed the proposed administrative withdrawal policy, and vetted the proposed policy through all constituent groups. The Board of Trustees then approved the new policy. For individual classes, faculty members could request that a student be administratively withdrawn for missing 15% or more of a class. Additionally, a financial aid recipient who stopped attending or participating in all classes for 14 calendar days or more and who appeared to have unofficially withdrawn from the institution could be administratively withdrawn from all classes. Since fall 2015, a total of 1,416 students have been administratively withdrawn from 2,838 classes. In the event that a student would like to appeal the administrative withdrawal, a process has been established through the Instructional Division.

Goal #5: Increase automation

Another goal of the College's QI was to increase automation and ensure compliance with FERPA regulations. Four card readers were implemented in large lecture halls where students could scan the bar codes on their student IDs, and attendance data automatically populated the SPS. Additionally, color-coded indicators were implemented to identify a student's status in each course. A student who missed < 6.25% of a class was coded as green (making good progress). A student who missed between 6.25%-12.49% of class was classified as yellow (warning status). A student who missed 12.50-14.99% of class was coded as red (early alert), and faculty could submit an early alert for Student Services to perform outreach. Finally, a student who missed 15.00% or more of a class was classified as gray (administrative withdrawal) and was eligible to be administratively withdrawn by the faculty member.

Goal #6: Use attendance data to identify additional at-risk factors for intrusive advising

The sixth goal was to use attendance data to identify additional at-risk factors for intrusive advising. Faculty advisors and Enrollment Services Specialists had access to review the color-coded status indicators to identify if a student was actively attending and/or participating in each course. Review of this data became an integral part of the advising process. Additionally, a group of faculty and staff reviewed two case management systems, Student Success Plan and Ellucian Pilot, in an effort to identify additional ways to support intrusive advising. While these systems were not implemented campus-wide, Student Success Plan was implemented by a Department of Labor grant-funded program at Jefferson with a select group of students.

Goal #7: Provide attendance reports to institutional committees for review and development of action plans for student retention initiatives

As mentioned in the Executive Summary, the goal of providing attendance reports to institutional committees was modified. Instead, an action plan was developed to host a strategic planning retreat with institutional committees. Fifteen representatives, including advisors and faculty, from each of the following institutional committees participated in the retreat: Accreditation, Assessment, Curriculum, Strategic Enrollment Management & Retention, Strategic Planning, and Student Learning & Support. As a result of the retreat, the College researched the implementation of a Learning Analytics Processor and created two task forces, the Data Analysis Task Force and the Student Intervention Task Force. The charge of the Data Analysis Task Force was to continue performing statistical analyses and to develop the College's predictive model. This task force analyzed numerous data points and determined several scale variables that were predictive of student course completion and GPA at Jefferson College. The Student Intervention Task Force developed a comprehensive list of [student interventions](#), including electronic communication, phone calls, and letters, and identified a combination of these methods to be performed by faculty and Student Services staff. Representatives from each of the six institutional committees participated on the two task forces.

Goal #8: Increase student retention and completion rates

An important goal was to increase student retention and completion rates. The predictive model that was developed included the following variables: ACT score, cumulative GPA, prior-term GPA, high school

GPA, and attendance, among other categorical variables. These scale variables were weighted equally and averaged to create a composite value named Prediction. Initial findings revealed that Prediction had the following correlations with course completion and term GPA. All correlations were statistically significant at the 1% level.

<u>Timeline</u>	<u>Correlation with course completion</u>	<u>Correlation with term GPA</u>
Beginning of semester	.299	.378
Week 4 of semester (includes attendance data)	.409	.480
End of semester (includes attendance data)	.531	.586

After the predictive model was piloted during the fall 2017 semester in five General Psychology courses, one of the faculty members used attendance percentages, ACT scores, and high school GPA to predict total course points using a multiple regression analysis. This model accounted for the greatest amount of variance in total course points ($r^2 = .349$). Examination of r^2 change revealed that attendance percentage accounted for the most variance (15.3%) compared to high school GPA (11.1%) and ACT score (8.5%). Overall, attendance was identified as the strongest predictor of student outcomes. In the regression model, each percentage point increase in attendance predicted an approximate four point increase in total points, or 1% of total course grade. The coefficients from the regression model were used to predict grades. Assuming average high school GPA and ACT scores, an 85% attendance rate was the cutoff in the model to predict success, a grade of 70% or above, in the course. This also aligned with the College's 15% requirement to be eligible for administrative withdrawal.

- 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.

The most significant impact of Jefferson's QI was to ensure compliance with the U.S. Department of Education's federal financial aid policies. During a Title IV Program Review in May 2012, Jefferson College was identified as being an attendance-taking institution and not in compliance with the Department of Education's new attendance policies implemented in July 2011. As a result of the QI and to ensure federal compliance, the College's [attendance policy](#) was revised, and the new administrative withdrawal policy was implemented, both which required approval by the Board of Trustees. A new process was established for tracking attendance and participation with mandatory reporting by all faculty. All course syllabi were revised to include an [attendance statement](#). New technology was implemented with the development of the Student Participation System (SPS) and the implementation of card readers to capture attendance data. By implementing the SPS, there was a significant impact in compliance with federal financial aid policies and a process established to identify financial aid recipients who stopped attending all courses for 14 calendar days.

The collection of attendance and participation data allowed for more intrusive advising. Faculty advisors and Enrollment Services Specialists have access to an overview of attendance and participation through the College's web portal, which allows the faculty or staff member to identify the student's status (good progress, warning, early alert, or eligible for administrative withdrawal) in each course. Faculty members can submit an early alert based on attendance data, which prompts outreach from the Enrollment Services Specialist – Resource Advisor. Many faculty also perform outreach to students who are in early

alert status and approaching administrative withdrawal eligibility. The SPS is an integral part of campus operations and is integrated in the campus culture.

Since the implementation of the SPS in fall 2013, retention rates have increased. The College’s most recent retention rates for 2015-2016 for first-time, full-time, degree/certificate-seeking students from fall to fall are as follows:

<u>Student Type</u>	<u>Percentage</u>	<u>Increase Over Previous Year</u>
Full-time students	63%	7%
Part-time students	47%	12%

While the College understands that many factors contribute to an increase in retention rates, faculty and staff believe the integration of attendance and participation data into academic advising as well as regular faculty review have had a positive impact on students.

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

During AY2015-2016, Jefferson College’s in-house institutional research team, led by two faculty members, began conducting inferential statistical analyses on factors affecting student retention and success at the course level. Three operational definitions of student success used were 1) term GPA, 2) successful course completion ratio (SCCR) including D*, and 3) successful course completion ratio (SCCR) excluding D**. Because the focus of the College’s QI was on student attendance in relation to student retention and success, the team began their inferential statistical analyses by performing one-tailed correlation hypotheses tests on the following variable pairs:

- (1) Term Attendance & Term GPA
- (2) Term Attendance & SCCR (including D)
- (3) Term Attendance & SCCR (excluding D)
- (4) First 4 Weeks Attendance & Term GPA
- (5) First 4 Weeks Attendance & SCCR (including D)
- (6) First 4 Weeks Attendance & SCCR (excluding D)

For each of the above variable pairs, the team tested [hypotheses](#) at the 1% level of significance using six random samples of students selected from the population of Jefferson College students enrolled only in on-campus courses for fall 2014.

* SCCR (including D) =
$$\frac{\text{Number of courses with the grade of A, B, C, D or P}}{\text{Number of courses of enrollment}}$$

** SCCR (excluding D) =
$$\frac{\text{Number of courses with the grade of A, B, C or P}}{\text{Number of courses of enrollment}}$$

All [correlation tests](#) performed for fall 2014 on students enrolled only in on-campus courses yielded statistically significant results at the 1% level. The team then conducted the same [correlation tests](#) using six random samples of students selected from the population of Jefferson College students enrolled only in on-campus courses for spring 2015 and obtained consistent results. Specifically, for both fall 2014 and spring 2015, the team found positive correlations between attendance (both term and first 4-weeks) and three measures of student success [i.e., term GPA, SCCR (including D), and SCCR (excluding D)] for students enrolled only in on-campus courses.

Next, the team conducted [correlation tests](#) on the same variable pairs using samples of students selected from the population of students enrolled only in online courses for both fall 2014 and spring 2015. Consistent with the findings from the correlation tests conducted using students enrolled only in on-campus courses, all correlation test results were statistically significant at the 1% level. Specifically, for both fall 2014 and spring 2015, the team found positive correlations between attendance (both term and first 4-weeks) and three measures of student success [i.e., term GPA, SCCR (including D), and SCCR (excluding D)] for students enrolled only in online courses.

After completing the correlation analyses discussed in the preceding paragraphs, the team conducted [one-tailed simple linear regression tests](#) on six random samples of students selected from the population of Jefferson College students enrolled only in on-campus courses for spring 2015. [Hypotheses](#) were tested at the 1% level of significance.

For each random sample, simple linear regression tests were conducted for each of the following independent and dependent variables. The independent variable, X, for all six tests was attendance and the dependent variable, Y, was one measure of student success [i.e., term GPA, SCCR (including D), or SCCR (excluding D)].

- (1) Term Attendance & Term GPA
- (2) Term Attendance & SCCR (including D)
- (3) Term Attendance & SCCR (excluding D)
- (4) First 4 Weeks Attendance & Term GPA
- (5) First 4 Weeks Attendance & SCCR (including D)
- (6) First 4 Weeks Attendance & SCCR (excluding D)

As expected, all simple linear regression tests performed were statistically significant at the 1% level. These results suggested that, for students enrolled only in on-campus courses, a positive cause-and-effect relationship existed between attendance (both term and first 4-weeks) and three measures of student success [i.e., term GPA, SCCR (including D), and SCCR (excluding D)].

To address the effect of Jefferson College's SPS on student success associated with the Jefferson College student population, the team performed [36 two-mean tests](#). Specifically, the team conducted [one-tailed tests](#) at the 1%, 5%, and 10% levels of significance.

Six randomly selected samples from the population of spring 2013 Jefferson College students versus six randomly selected samples from the population of spring 2016 Jefferson College students resulted in 36 two-mean test combinations. Findings from the two-mean tests were inconsistent. In only two cases, test statistics were significant at the 1% level. In only five cases, test statistics were significant at the 5% level. In only six cases, test statistics were significant at the 10% level. In 23 cases, test statistics were not statistically significant. Moreover, the test statistic was negative in eight cases, which is seemingly logically inconsistent with the expected relationship between the population means. In summary, findings from these two-mean tests suggest no statistically positive effect resulting **solely** from the implementation of the SPS. These results suggest additional research is needed.

Additionally, as a result of the SPS, faculty and staff have access to a variety of SPS reports. Faculty can run an attendance report and a participation report for each class which includes the percentage of missed attendance/participation for each student. They can also review specific academically-related activities that have populated the SPS from Blackboard.

The Office of Student Financial Services has a number of reports related to compliance. For example, staff run a no-show report for adjustments to never attended student eligibility for aid for each period of enrollment and a report of students who were no-shows but later began attendance. Each week, staff run

a return of Title IV funds report to identify students who have ceased participation in all courses for 14 calendar days within the student’s scheduled period of enrollment. This data is used for return of Title IV calculations.

Unique student participation reports were also developed and are being used by multiple offices. The Registrar’s Office monitors faculty compliance with SPS reporting. Payroll confirms student workers are being classified and taxed correctly as students during each pay period. Athletics reviews attendance data for academic success and to confirm eligibility. The VA Certifying Official monitors SPS data for awarding of veterans’ benefits, and Enrollment Services runs reports for outreach and retention purposes.

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

Jefferson College identified various opportunities and challenges during the five phases of the QI. The opportunity for staff from Student Services, Instruction, and Information Technology to collaborate with faculty to develop and pilot a user-friendly Student Participation System (SPS) was significant. After the Title IV Program Review occurred in May 2012, faculty were invited to participate in discussions related to development of an attendance and participation tracking system. The requirements for attendance-taking institutions, development of the SPS, and mandatory attendance and participation tracking were shared campus-wide over the next year.

The SPS provided the opportunity for faculty and staff to examine data and confirm how essential attendance and participation were to student success. The statistical analyses led by two faculty members provided statistically significant evidence that attendance and participation played a significant role in student success.

The collection of attendance and participation data could be used to inform retention initiatives through early identification of students at risk of dropping or withdrawing from courses.

As the second community college in the state of Missouri to receive a Title IV Program Review and the first community college to be audited under new attendance policies, Jefferson College staff had the opportunity to become a leader within the state with the SPS. Following is a list of presentations by the Registrar, Director of Student Financial Services, Senior Director of Online Learning & Assessment, and/or Manager of Software Development:

<u>Date</u>	<u>Conference</u>	<u>Title of Presentation</u>
April 2014	HLC annual conference	Meeting Federal Financial Aid Regulations: Attendance and Participation Tracking
November 2014	Ellucian MOKA conference (Missouri, Oklahoma, Kansas, and Arkansas)	Meeting Federal Financial Aid Regulations: Attendance and Participation Tracking
November 2014	Missouri Association of Student Financial Aid Personnel (MASFAP) conference	It’s a Jungle Out There: Inside a Program Review
November 2015	Missouri Community College Association	Meeting Federal Financial Aid Regulations: Attendance and Participation Tracking

November 2017	MASFAP conference	Beyond the Federal Student Aid Program Review Guide
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Jefferson College experienced a few challenges during the QI. With the implementation of the SPS, training was offered for both full-time and adjunct faculty. Various hands-on training sessions were provided, online training sessions were developed, and a video was created on how to access and use the SPS. However, on occasion, a new faculty member would appear on the list of faculty who did not submit data for the week and advised that he/she was unaware of mandatory attendance and participation reporting. Overall, in 2018, the SPS is part of Jefferson’s campus culture, and the benefits of this system outweigh any challenges the College experienced.

In addition to ensuring that all faculty submit attendance and participation data each week, the College had to remind faculty of the importance of timely attendance reporting and the impact to financial aid if data was not accurate. Financial aid staff experienced a few situations where financial aid could not be disbursed due to not having data to confirm that a student began attendance and/or participation in a course. Additionally, staff discovered that some students had been marked as present on a day the course was not scheduled to meet. As a result of these types of concerns, the SPS was modified as needed, and additional training was provided. Concerns about data integrity led to additional concerns about use of data. If faculty or staff members advised a student based on data that was inaccurate or not submitted in a timely manner, that information had the potential to cause concern and frustration if the student had been attending, but the data had not been submitted in a timely or accurate manner. Continued education about the importance of timely and accurate submission of attendance and participation data helped to address these concerns.

When the initial QI proposal was written, financial resources were more stable than they were throughout this project. The resources needed to sustain Jefferson’s QI were not feasible in a time of reduced state funding, decreased enrollment, and faculty/staff layoffs.

An additional challenge was transitioning to the final stages of the College’s QI. There was a significant amount of research and discussion by representatives from six institutional committees about the implementation of a Learning Analytics Processor. However, there was an institutional challenge with balancing the need for faculty ownership of courses and the need for course specific data that resulted in the shifting of implementation of a Learning Analytics Processor to the development of an in-house predictive model to identify at-risk students. While the predictive model was successful in identifying at-risk students, the pilot project clearly identified that outreach to students in the fourth week is too late to impact 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.

An outline for Jefferson’s QI proposal was prepared in November 2013 and shared at Instructional Division meetings and at Faculty Senate Executive Council. The QI proposal draft was shared with the Accreditation Committee in February 2014 and with constituent groups and the President’s Leadership Council in March 2014.

The QI process was extremely open and collaborative. External pressure to ensure compliance with the Department of Education created an urgency for change that formed the foundation for the early phases of this project. Upon learning of areas of non-compliance after the College’s Title IV Program Review, several administrators, faculty, and staff convened to review attendance policies and develop a process to ensure compliance.

During Phases I and II, the Registrar, Director of Student Financial Services, Senior Director of Online Learning & Assessment, and Manager of Software Development were actively involved in the development and implementation of the Student Participation System (SPS), card readers, and color-coded status indicators. A pilot of the new SPS was conducted by eight faculty. Faculty submitted comments such as “The attendance system is very straightforward and user-friendly.” The Registrar requested feedback during and after the pilot which was used to enhance the system for full implementation. Additionally, the card reader was piloted by three faculty whose classes were taught in a specific lecture hall. Faculty were instrumental in ensuring that attendance and participation data was collected, and the administration supported the new attendance-taking requirements.

Mandating attendance-taking was a culture change for Jefferson College. However, the SPS was developed to be a user-friendly tool for faculty. Despite the increased workload for faculty, many positive remarks were received from faculty throughout the first year of using the SPS in regard to how easy the system was to use and how valuable the data was since some faculty allocated a certain percentage of points for attendance and participation. While the workload increased for Student Services, specifically the Registrar’s Office and Student Financial Services, the value that the data provided for staff, especially for federal compliance and student success, was invaluable.

With the implementation of the color-coded status indicators as part of Phase III, faculty gained the ability to submit early alerts based on attendance and participation data. With the implementation of an administrative withdrawal policy, faculty had the opportunity to request students be administratively withdrawn for missing 15% or more of a course. Some faculty members expressed appreciation for this opportunity as it impacted the grade distribution for their courses. Additionally, the status indicators allowed both faculty and staff to identify students who were at risk of not successfully completing a course based on attendance and participation data.

Students also played a role in the QI. As required by federal regulations, students must demonstrate responsibility through attendance and participation when they receive federal student aid. Taxpayers funding the education of students expect those students to put forth an appropriate level of effort, which includes active participation in coursework. Additionally, Jefferson's student loan cohort default rate (CDR) was higher in prior years due to the lack of student attendance and participation tracking. When studying the population of defaulting borrowers, many were students who never attended. Now with the expectation that students be actively engaged in classes, students not serious about college appear to be looking elsewhere, lowering Jefferson's CDR from 22.5% (2012) to 13.8% (2015).

During Phases 3-5, participation from institutional committees was imperative. A variety of faculty and staff representatives from the Accreditation Committee, Assessment Committee, Curriculum Committee, Strategic Enrollment Management & Retention Committee, Strategic Planning Committee, and Student Learning & Support Committee collaborated to identify specifically how to use the attendance and participation data to improve student retention and student success. These same representatives agreed to participate on the Data Analysis Task Force and Student Intervention Task Force. The value of the collaborative efforts of these six institutional committees cannot be expressed enough; this process laid the foundation for additional collaboration on student success initiatives.

Additionally, faculty played an important role in the QI during these latter phases. Two faculty members invested a significant amount of time performing statistical analyses on attendance and participation data. After each analysis, the faculty shared next steps for additional analyses. Faculty who piloted the predictive model provided regular feedback throughout the semester. The buy-in from faculty members was a significant contribution to Jefferson’s QI.

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

Educating students on the importance of attendance and participation in all classes became significant as disbursement of financial aid was tied to the review of attendance and participation data. As data was collected in the Student Participation System (SPS), the importance of accurate and timely attendance reporting became critical. If a faculty member did not report attendance for a class or reported data inaccurately, that oversight had the potential to delay or stop disbursement of financial aid for a student who did not appear to be attending all classes.

Many research articles were reviewed by faculty and staff that indicated the relationship of attendance and participation to a student's retention and success. The statistical analyses that faculty performed confirmed that there was a statistically significant relationship between attendance and successful course completion at Jefferson College.

While the predictive model pilot did not yield measurable improvements to student success at the course level, a valuable lesson was learned about the timing of identification of at-risk students and performance of intervention strategies. Additionally, the success of student intervention depended on each student's responsiveness to the outreach performed.

Resource Provision

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

Human Resources

While numerous faculty, staff, and administrators played a role in developing and/or implementing Jefferson's QI, the following individuals served on subcommittees and/or task forces related to the QI or participated in the strategic planning retreat.

<u>Name</u>	<u>Title</u>
Linda Abernathy (retired)	Division Chair of Math, Science, & Business
Diane Arnzen	Director of Student Support Services
Trish Aumann	Director of Institutional Effectiveness & Strategic Planning
Chris Baldwin	Data Specialist/TAACCCT Grant
Mary Baricevic	Professor of Business
Sarah Bright	Director of Student Financial Services
Leslie Buck	Professor of Psychology
Christina Calentine (resigned)	Pool Manager/Instructor of Health & Physical Education
Ray Cumiskey	President
Caron Daugherty	Vice President of Instruction
Shirley Davenport (retired)	Dean of Arts & Science Education
Chris DeGeare	Interim Associate Dean of Business & Technical Education
Brian Dunst (resigned)	Instructor of Philosophy

Nicole Dutt (resigned)	Enrollment Services Assistant II
Julie Fraser (retired)	Associate Vice President of Student Services
Daryl Gehbauer	Vice President of Finance & Administration
Kim Harvey	Vice President of Student Services
Kathy Johnson	Assistant Professor of Business Management
Kathy Johnston	Director of Enrollment & Retention
Bill Kaune	Associate Professor of Heating, Refrigeration, & Air Conditioning
Amy Kausler	Professor of Psychology
Laura Klaus	TAACCCT Grant Program Manager
Connie Kuchar	Professor of Mathematics
Betty Linneman (retired)	Director of Learning Services
Dena McCaffrey	Dean of Career & Technical Education
Laura McCloskey	Student Support Coordinator
Dana Nevois	Director of Veterinary Technology
Chris Otto	Associate Professor of English
Lisa Pavia-Higel	Associate Professor of Communication & Theatre
Patti Peery	Information Analyst/Financial Aid
Skyler Ross	Associate Professor of Mathematics
Mindy Selsor (retired)	Vice President of Instruction
Deb Shores (retired)	Enrollment Services Specialist – Resources
Mark Smreker	Manager of Software Development
Richard Stephenson	Academic Success Center Coordinator
Allan Wamsley	Senior Director of Online Learning & Assessment
Joan Warren	Research Analyst
Suzie Welch	Assistant Professor of Sociology
Brandon Whittington	Instructor of Psychology
Kenny Wilson	Interim Associate Dean of Health Occupation Programs
Stacey Wilson	Registrar
Mary Wiser (retired)	Information Analyst/Registrar
Brenna Young	Enrollment Services Specialist – Resources

Financial Resources

The largest financial resources invested in the College's QI were the time and efforts of many faculty and staff. Many of the participants were exempt employees; therefore, portions of this initiative were completed outside of normal business hours. Also, the College purchased four card readers for lecture halls to automatically record attendance data when a student scanned his/her student ID.

Technological Resources

The Student Participation System (SPS) had a browser-based user interface built using HTML and JavaScript. This interface allowed faculty to enter attendance and other participation for their assigned courses. The interface also allowed faculty to generate reports in HTML or Excel format. These reports included access to participation information collected from the College's Learning Management System (Blackboard), along with the participation information entered by the faculty. Finally, the interface allowed the Registrar's Office to monitor and correct SPS information, as needed. The browser-based user interface was served up by a Java Servlet running on a Weblogic Application Server. The Java Servlet stored data in an Oracle Database. Additionally, reporting was provided by (Oracle Database) PL/SQL programming and also utilized the College's report writing tool, Cognos.

The predictive model that was created in Microsoft Excel included several scale variables that were predictive of student course completion and GPA at Jefferson College. These variables included ACT score, cumulative GPA, prior-term GPA, high school GPA, and attendance, among other categorical variables. These scale variables were weighted equally and averaged to create a composite value named Prediction. This predictive model was then piloted by two faculty in five General Psychology courses for the fall 2017 semester.

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.

The College will continue to sustain attendance and participation tracking through the Student Participation System (SPS) and will continue to explore the use of card readers to capture attendance data, decreasing the chance of error in reporting attendance. Faculty have requested the ability to submit an early alert through the SPS throughout the semester by selecting any student's name, not only when a student is eligible for early alert based on attendance data.

Predictive analytics will continue to be discussed as an institution but will be limited by the decreased access to granular grade and course data. An automated solution will be necessary to sustain a predictive model as the manual efforts involved in this project are not realistic to scale. Case management software is another area that will continue to be reviewed campus-wide. The pilot conducted by a Department of Labor grant-funded program using Student Success Plan was very successful, and six additional areas on campus are using this software to better serve students. Discussions will continue about scaling this software for additional student populations.

In regard to the statistical analyses performed, faculty recommended additional correlation and multiple regression tests that can be run. They also suggested to explore other possible control and/or predictor variables that could be added to the multiple regression models. For example, control variables might include first-generation college student, transfer student, degree-seeking student, full-time student, student-athlete, and student completion of 12 or more credit hours with a "C" or better. Predictor variables could include the number of times a student attempted the First Year Experience course or the number of withdrawals prior to the current semester. Additionally, faculty recommended that tolerances be established for prior term GPA and high school GPA, and interventions developed to support students below the tolerance levels. A longer-term proposal was made to conduct statistical tests (i.e., paired-difference test or two-population mean test) to address the effectiveness of student interventions.

As statistical analyses have revealed, attendance and participation are significantly related to student success and retention. The College plans to continue using data from the SPS to inform retention initiatives.

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.

Jefferson College is willing to share details on the Student Participation System, attendance and administrative withdrawal policies, financial aid processes to ensure Department of Education compliance, statistical analyses, predictive model, and student intervention strategies.