HIGHER LEARNING COMMISSION

FORM

Open Pathway Quality Initiative Proposal

Institutional Template

The enclosed Quality Initiative Proposal represents the work that the institution will undertake to fulfill the quality improvement requirements of the Open Pathway.

Joy Bodin 2-9-2024

Signature of Institution's President or Chancellor *Date*

Joy Bodin, President

Printed/Typed Name and Title

Hennepin Technical College

Name of Institution

Brooklyn Park, MN and Eden Prairie, MN

City and State

The institution completes the Quality Initiative Proposal by responding to the questions in each category of the template. Proposals should be no more than 4,500 words. The institution may choose to submit a brief implementation plan or supplemental charts or graphs as appendices to the template. The Quality Initiative Proposal will be accepted beginning September 1 of Year 5. It is due no later than June 1 of Year 7.

Submit the proposal as a PDF file to hlcommission.org/upload. Select "Pathways/Quality Initiative" from the list of submission options to ensure the institution's materials are sent to the correct HLC staff member. Submission file names should utilize the following format: QIProposal[InstitutionName][State].pdf (e.g., QIProposalNoNameUniversityMN.pdf). The file name must include the institution's name (or an identifiable portion thereof) and state.

Overview of the Quality Initiative

1. Provide a title and brief description of the Quality Initiative. Explain whether the initiative will begin and be completed during the Quality Initiative period or if it is part of work already in progress or will achieve a key milestone in the work of a longer initiative.

Title: Expanding Hennepin Technical College's Predictive Analytics: Integration of Student Progress Reports

Description: In the spring 2024 semester, Hennepin Technical College's Information Technology infrastructure team upgraded its remote server to support an updated version of Power BI. This change allows the institution to leverage data to more accurately predict when students stop out and/or drop out from college. The Azure Machine Learning visuals embedded within the Power BI software allow Hennepin Technical College's Institutional Research team to create visuals which can be shared live, in-real-time with campus stakeholders to provide interventions for students to keep them on the path to graduation. In the status quo, data points available in the college's data environment include course placement, course level (developmental or undergraduate), course features (day, time, delivery mode), student major, academic performance, and demographics, among others.

Although these data points are valuable for sharing information *about* students, they do not allow us to hear *from* students. In recent years, Hennepin Technical College has been more intentional about gathering feedback directly from students to better meet their needs both inside and outside of the classroom. One such effort – Student Progress Reports – allows the school to intervene with students who may not be passing a course and connect them with resources available to help them succeed. Our desire moving forward is to connect Student Progress Reports with our predictive analytics efforts to more holistically support students.

With regard to a brief background of Student Progress Reports, in 2019 Hennepin Technical College was part of an evaluation examining reasons why students stop out, drop out, or persist with pursuing a certificate, diploma, or degree. One of the major findings of this evaluation identified an unsuccessful grade (D, F, FN, FW, or W) in one class as a predictor of a stop out or dropout event. Shortly thereafter, campus leadership developed a plan to proactively target students on pace for an unsuccessful grade outcome to receive an intervention in an effort to remain in good standing for that particular class. As a result, a new student success initiative, Student Progress Reports, was created and piloted during the fall 2020 semester.

Student Progress Reports are meant to identify students struggling early in the semester to provide them with academic support and/or connect them to non-academic resources. This approach is outlined in, and aligned with, the institution's Academic Plan and Persistence Plan, respectively. Faculty receive an invitation from the Vice President of Academic and Student Affairs encouraging them to participate and fill out Student Progress Reports for their roster of students. In this invitation, faculty members are explained that the goal is to check in with students who may need additional support and resources to increase persistence and completion. Faculty members are given a unique link to complete Student Progress Reports for their specific course(s). Upon clicking the link, faculty members answer one simple question about each student: "Is this student doing "C" or better work in this course?" To answer this question, faculty members simply selected "yes" or "no" via a radio button.

The Student Progress Reports are opened approximately one-third of the way through the term. During summer, faculty respond during weeks 3 and 4 of the term. For the fall and spring semesters, faculty have three weeks – from week 4 through week 6 of the semester – to complete the intervention. Once the reports are closed, students identified as being at-risk of unsuccessfully completing the course are

connected with tutors, counselors, access services, technology, and other appropriate resources, as needed.

Preliminary results are promising. However, participation among faculty members could be greatly expanded and courses with non-traditional session lengths are currently excluded from the intervention. In addition, several complications in the existing process need troubleshooting solutions. For example, in courses which are co-taught by multiple instructors, more than one Student Progress Report is sent for the class which results in duplications for students and lost time for faculty. Similarly, if a teaching assignment is changed and a different instructor ultimately teaches the course, the faculty member who was originally assigned the course will receive the invitation to participate in the Student Progress Report even though that individual does not know the status of students in the class. Improvements to the process and desired expansion of the intervention are addressed in greater detail below.

Starting in Fiscal Year 2025, the institution will integrate Student Progress Reports into its predictive analytics initiative. Utilizing Power BI, a dynamic dashboard powered by machine learning will be deployed to pinpoint students at risk of stopping out or dropping out. This dashboard will primarily use demographic data, supplemented by in-class behaviors like D2L activity and interventions from the Student Progress Reports. Accessible to advisors, tutors, and counselors, it will enable real-time support for students.

Sufficiency of the Initiative's Scope and Significance

2. Explain why the proposed initiative is relevant and significant for the institution.

A recent evaluation of student success outcomes at Hennepin Technical College found that 41.5% of students studied from the fall 2013 to fall 2020 semesters dropped out at some point during their first three semesters of attending the institution. A major predictor of an unsuccessful academic outcome was whether the student had at least one D, F, FN, FW, or W grade during the first semester at the institution. If a poor grade was earned, students were 79.5% more likely to stop out or dropout. Ensuring that these students are identified early not only gives them a chance to successfully complete the course, but it greatly increases the chance that the student will be retained and, possibly, be conferred an award. It will also help remove basic needs barriers early in their collegiate journey as they will be connected with HTC employees who can assist students with resources available to them both inside and outside of the HTC community.

3. Explain the intended impact of the initiative on the institution and its academic quality.

Hennepin Technical College is in its infancy with regard to leveraging predictive analytics. Current dashboards, feeds, and data requests are typically reactionary in nature and are provided in response to a specific, urgent need. Providing a dashboard with a proactive intent would represent a shift in the college's priorities for utilizing data to improve student outcomes. With regard to Student Progress Reports specifically, they are completed with an intent which is three-fold: first, to provide the necessary support to a student in order to pass an individual course; second, to improve the chances of the student being retained to a subsequent semester; and, third, to increase the number of graduates for those students who are in their final semester of coursework. Given that Student Progress Reports are designed to help prevent a student from stopping out or dropping out, it can be argued that the quality of the education received by the student improves because less content is missed. Pairing this information with existing demographic and academic data will enhance HTC's capacity to proactively reach out to students to provide them with wraparound support services.

Clarity of the Initiative's Purpose

4. Describe the purposes and goals for the initiative.

The purpose of expanding predictive analytics and incorporating Student Progress Reports into the data model is to provide timely interventions to keep students enrolled in the classes in which they demonstrate below-average performance during the first half of the semester.

The overarching goals of this Quality Initiative are four-fold:

1. To create a dynamic dashboard which allows HTC personnel to proactively connect with students at-risk of stopping out or dropping out. Hennepin Technical College does not currently use predictive analytics in any capacity. This dashboard would be the first step to building retention/completion interventions based on machine learning.

2. Increase faculty participation in Student Progress Reports. In general, the proportion of faculty members who complete all Student Progress Reports in their classes hovers around 30%. As a result, hundreds of students who may be at-risk of stopping out or dropping out are not identified and linked with resources which may prevent a negative academic outcome. These students represent thousands of potential earned credits which, rather than being lost, could be counted toward one's certificate, diploma, or degree program.

3. Develop a process to include short-session courses (those eight weeks or less) in Student Progress Reports. At present, only courses which start (approximately) during the first week of the semester and end (approximately) during the last month of the semester are included in the intervention effort. This excludes both late-start courses and programs in which students progress through a sequence of "short courses" (for example, some programs require students to take Course 1 during the first four weeks of the semester, which is a prerequisite for Course 2 which runs from weeks five through eight of the semester, which is a prerequisite for Course 3 which runs from weeks nine through twelve of the semester, which is a prerequisite for Course 4 which runs from weeks thirteen through sixteen of the semester). These courses are currently excluded due to the survey tool's technical limits. In Fiscal Year 2025, the institution will be switching Student Progress Reports to a new tool, Salesforce. We will be working with a third-party vendor to build behind-the-scenes logic which allows for courses to have Student Progress Reports open and close after a set amount of time has elapsed (rather than based on specific start and end dates of the semester).

4. Provide timely and relevant interventions to increase chances of a successful course outcome. At Hennepin Technical College, students who successfully complete courses are more likely to graduate, transfer, or progress through one's program (Favela et al., 2019). Conversely, students who have at least one unsuccessful course outcome in the first semester of study are more likely to stop out or drop out (Favela et al., 2019). These interventions could have a residual benefit of boosting persistence and retention. Considering the institution's recent decline in enrollment, increasing persistence and retention is imperative for the health of the college and the successful outcome of the student. We will investigate if – when this information is included in a predictive analytics model with academic and demographic variables – there is a measurable benefit for our retention and completion numbers.

5. Select up to three main topics that will be addressed by the initiative.

- ☐ Advising
- ☐ Assessment
- ☐ Civic Engagement
- ☐ Curriculum
- ☐ Diversity
- ☐ Engagement
- ☐ Faculty Development
- ☐ First-Year Programs
- ☐ General Education
- ☐ Leadership
- ☐ Learning Environment
- ☐ Online Learning
- ☒ Persistence and Completion
- ☐ Professional Development
- ☐ Program Development
- ☐ Program Evaluation
- ☐ Quality Improvement
- ☒ Retention
- ☐ Strategic Planning
- ☐ Student Learning
- ☒ Student Success
- ☐ Teaching/Pedagogy
- ☐ Underserved Populations
- ☐ Workforce
- ☐ Other:

6. Describe how the institution will evaluate progress, make adjustments and determine what has been accomplished.

With regard to evaluation, Fiscal Year 2025 will serve as a baseline and we will track progress annually. We will track the number of students flagged as at-risk, the number of students who received interventions from Student Progress Reports, the rate at which students stop out and/or drop out, and the rate at which students are retained. We will disaggregate these metrics by demographic indicators and will further isolate students who 1) were never reported via Student Progress Reports, 2) were identified in Student Progress Reports but did not receive an intervention, and, 3) were identified in Student Progress Reports and did receive an intervention. We will evaluate year-over-year progress to determine if we are moving in the right direction. When longitudinal data can be displayed, these will be added as a separate tab to the same Power BI dashboard to promote transparency and accountability.

The institution has tracked Student Progress Reports since the first iteration of these interventions were administered in the fall 2020 semester. We will continue updating the table below to 1) track the effectiveness of the intervention as a variable for student success and to 2) ensure numbers are growing in Fiscal Year 2025 once Salesforce is implemented and short courses are included. The following data points have been obtained thus far:

Term	**Classes (within time parameters)**	**Completion Rate**	**Students Assessed**	**Reported as Below "C" Grade**	**Reported and Graduated**	**Reported and Registered for Subsequent Term**
Fall 2020	915	18.5% (169 classes)	1,428	351	77 (21.9%)	243 (69.2%)
Spring 2021	908	34.0% (309 classes)	2,622	388	64 (16.5%)	216 (55.7%)
Summer 2021	333	21.9% (73 classes)	902	118	20 (16.9%)	70 (59.3%)
Fall 2021	634	26.2% (166 classes)	2,512	310	33 (10.6%)	52 (16.8%)
Spring 2022	792	39.4% (312 classes)	3,909	458	21 (4.6%)	198 (43.2%)
Summer 2022	311	17.7% (52 classes)	544	107	8 (7.5%	74 (69.2%)
Fall 2022	598	30.9% (191 classes)	1,358	341	5 (1.5%)	232 (68.0%)
Spring 2023	860	62.1% (534 classes)	2,687	505	26 (5.1%)	243 (48.1%)
Summer 2023	150	96.0% (144 classes)	1,010	151	5 (3.3%)	89 (58.9%)

With regard to Student Progress Reports specifically, the institution will evaluate progress by continuing to track faculty participation, the number of students graduated, the number of students who register for a subsequent semester, and retention/graduation rates. Progress will be made if more faculty actively participate in Student Progress Reports and larger volumes (and percentages) of students have successful academic outcomes. If possible to be tracked via the intervention tool, we will disaggregate the intervention type to determine which specific intervention is most impactful.

The institution will adjust if the combined percentage of students who either graduate or register for a subsequent semester does not show growth.

The institution will track what has been accomplished by monitoring both the number and percentage of graduations and re-enrollment. The institution will also measure accomplishments by monitoring the number and percentage of classes which have a Student Progress Report completed.

Evidence of Commitment to and Capacity for Accomplishing the Initiative

7. Describe the level of support for the initiative by internal or external stakeholders.

Hennepin Technical College's President has been vocal about becoming a more data-informed institution, and expanding predictive analytics has been incorporated into the President's Work Plan. Similarly, the President's Advisory Council, Faculty Shared Governance Council, and the Academic Affairs and Standards Committee all approved of expanding Student Progress Reports to reach more students. Additionally, when the Integrated Planning Task Force was rebranded to the Accreditation Committee, the main item endorsed by the committee as its focal point for the academic year was to formally submit the expansion of Student Progress Reports as the institution's Quality Initiative Proposal. This has been coupled with predictive analytics to align with presidential and institutional priorities.

8. Identify the groups and individuals that will lead or be directly involved in implementing the initiative.

The following campus stakeholders will be involved in implementing the Quality Initiative:

- Institutional Research: this team will write SQL code, visualize data in Power BI, work with Machine Learning models, and will track all pertinent student data and faculty participation.
- Director of Academic Support: this individual's team will help connect students to academic and non-academic resources
- Accreditation Committee: this group will provide training for faculty regarding how to submit Student Progress Reports and will further develop a strategy for expanding and implementing the intervention in short-term courses once Salesforce is implemented.
- Faculty: instructors will complete Student Progress Reports.

9. List the human, financial, technological and other resources that the institution has committed to this initiative.

Human: Hennepin Technical College has tasked its Institutional Research team to build the predictive analytics dashboard and track student progress, its Academic Support team to connect at-risk students with appropriate resources, its Academic Project Manager to administer the Student Progress Reports, and its Accreditation Committee to expand the reach of the intervention.

Financial: The institution has invested in Power BI as its data visualization tool. The college is also using Salesforce as a tool to administer Student Progress Reports in the future.

Technological: The institution will provide Salesforce training sessions to relevant stakeholders.

Other: The institution has dedicated multiple sessions during Academic Duty Days (professional development days mandated per the faculty collective bargaining contract) to make faculty aware of efforts to expand predictive analytics and incorporate Student Progress Reports as viable student success efforts. The institution has further provided data updates during these sessions to display the number of faculty who are participating and the number of students who have either graduated or been retained after receiving an intervention.

Appropriateness of the Timeline for the Initiative

(The institution may include a brief implementation or action plan.)

10. Describe the primary activities of the initiative and timeline for implementing them.

Spring 2024 semester: submit Quality Initiative Proposal to HLC

Summer 2024: launch predictive analytics dashboard leveraging demographic and academic data only

Fall 2024 semester: present expansion of existing participation in Student Progress Reports as institutional priority to faculty at professional development duty days; emphasize goal of 100%* participation; test the software to determine viability of including interventions for short-term (less than eight-week-long) courses

*Please note that 100% participation is aspirational. Some short courses (for example, those running less than one week) likely cannot be included in the intervention.

Spring 2025 semester: administer Student Progress Reports to all courses regardless of meeting length

Each semester (including during the Quality Initiative proposal, the reporting period, and in perpetuity): continue to collect data about how many students were served, how many ultimately passed courses, how many graduated, how many were retained, and update reporting on a semesterly basis to determine if efforts are demonstrating a strong return on investment and improvement in overall retention rates

Each semester: incorporate SPR intervention data into the predictive analytics dashboard to determine if there is a measurable improvement in retention and completion as a result of this effort

Institutional Contact for Quality Initiative Proposal

Include the name(s) of the primary contact(s) for the Quality Initiative.

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REFERENCE LIST

Favela, E., J. Lauritsen, R. Gilben, and I. Lui. 2019. “Stop, Drop, Enroll!” Collaborative research report from Hennepin Technical College, North Hennepin Community College, and the Brooklyn Bridge Alliance for Youth, 1-133.