University Technology Council

September 18, 2023

Key Terms for this Project

CENTRAL DATA PLATFORM

Azure Synapse Analytics

Synapse Analytics is an integrated platform service from Microsoft Azure that combines the capabilities of data warehousing, data integrations, ETL pipelines, analytics tools & services, the scale for big-data capabilities, visualization & dashboards.

Azure Data Warehouse

A data warehouse is a cloud-based central repository of information that can be analyzed to make more informed decisions. Data flows into a data warehouse from transactional systems, relational databases, and other sources, typically on a regular cadence.

REPORTING & CATALOGING

Power BI

Microsoft Power BI is an interactive analytics and data visualization software product developed by Microsoft with a primary focus on business intelligence.

AZURE PURVIEW

The Microsoft Purview Data Catalog offers enables users to browse what data is available to them either by searching or traversing the hierarchy of each data source in the catalog. This makes data sources easily discoverable and understandable by the users who manage the data.

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Executive Summary

GVSU has engaged World Wide Technology (WWT) to develop a centralized data platform for reporting and insight generation.

- The objective is to eradicate data siloes, enable data democratization and create and access visualizations generated from a central source of truth.
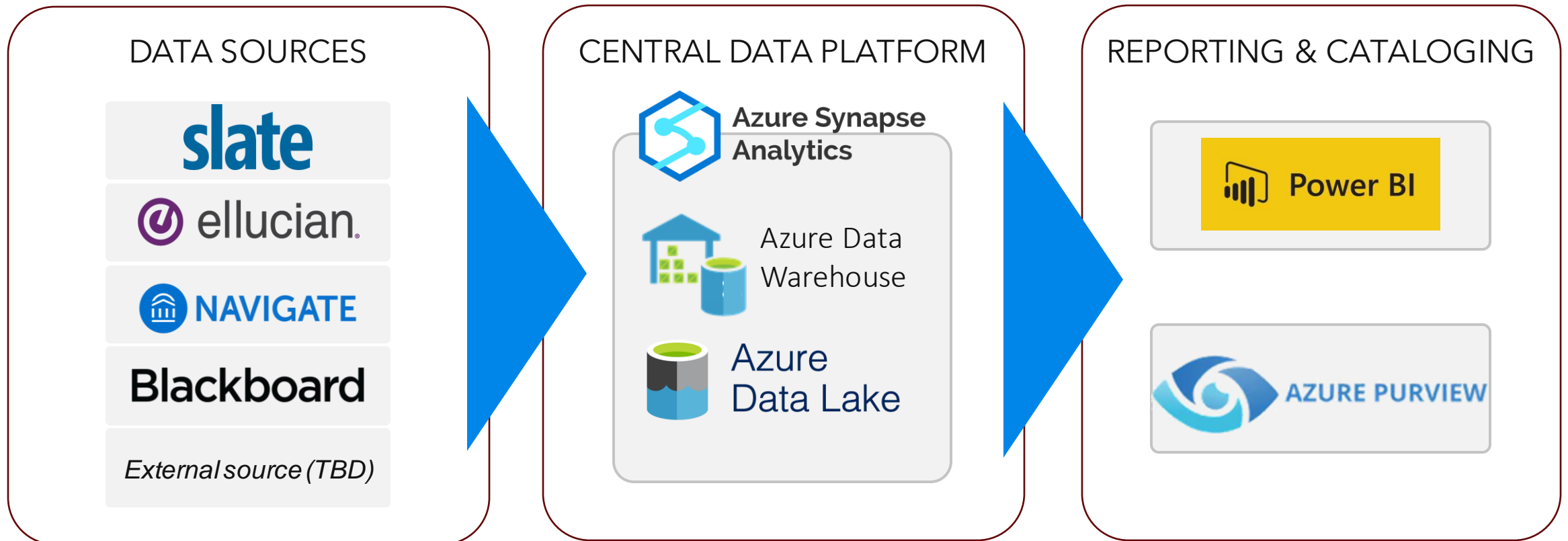
During the present phase, WWT is focused on:

- Developing the foundational infrastructure in Azure
- Working with GVSU stakeholders to collect Student reporting use cases
- Ingesting core Student data into the platform
- Making the Student data available to end users via PowerBI
- Empowering end users to better understand data and its availability with Azure Purview

The goal is to the complete the project by mid-December.

- Communications will follow on when data and features (e.g., Data Catalog) become available in Azure over the course of the fall semester.

What is the Azure Data Platform Implementation Project?

- GVSU is partnering with WWT to build a centralized cloud-based data lake & warehouse to power enhanced reporting and analytics capabilities
- The first 5 systems being integrated with a focus on Student data, with future domains to follow

End Users will have more direct access and understanding of GVSU data

USERS WITH AZURE ACCESS

GVSU will utilize Azure Purview to answers questions about data:

- What does this term mean?
- Which application did this field come from?
- Which term is appropriate for the report I'm building?

REPORT BUILDERS & VIEWERS

PowerBI will be used to develop & share reports and dashboards:

- PowerBI will connect directly to the central Azure platform
- Reports will be available on demand, saving users time and effort to piecemeal data
- Departments responsible for providing data will have a lighter load, e.g., Registrar's Office is backlogged with simple data requests

ADVANCED USERS
(ASPIRATIONAL)

Advanced Users will be able to access the Azure platform more directly for their use cases:

- Users could build machine learning models at scale via Azure Machine Learning
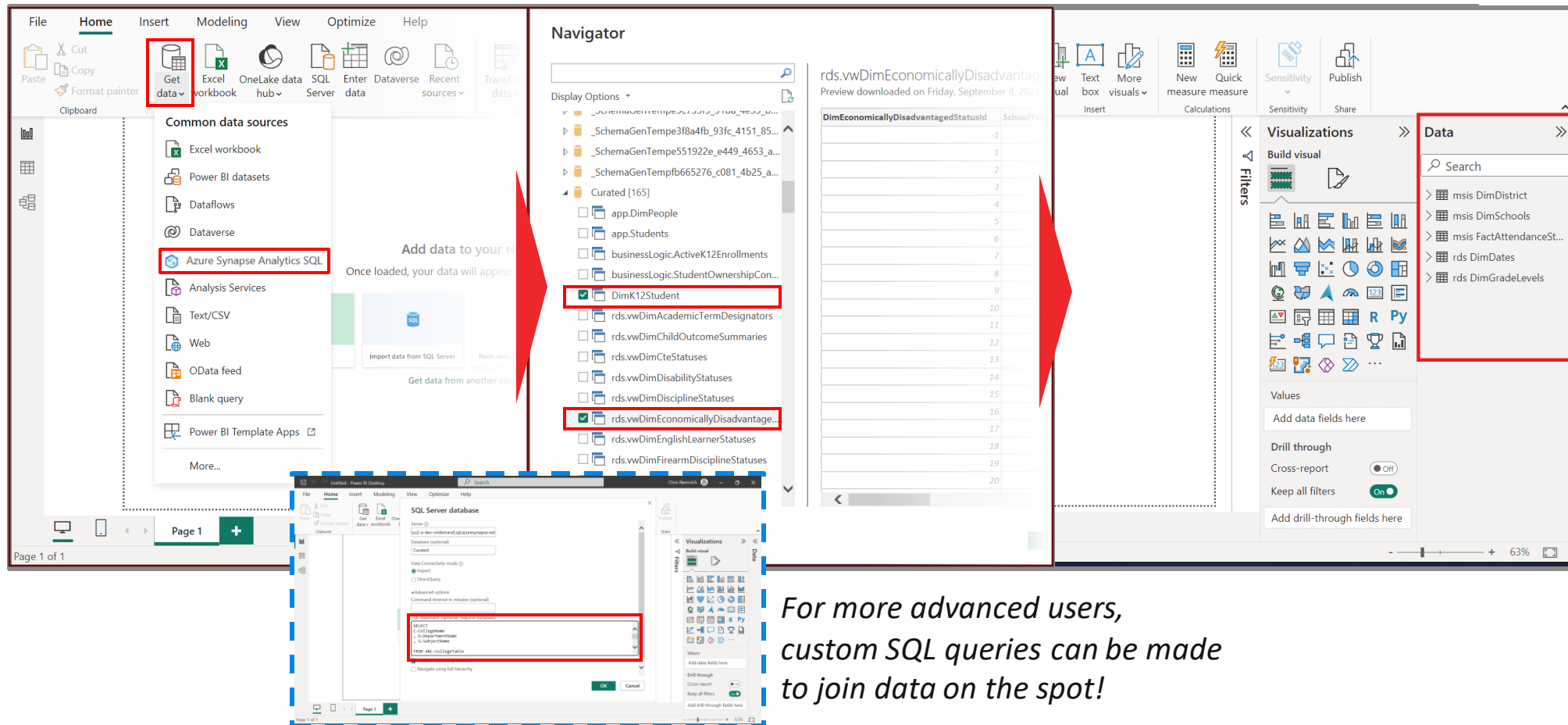- GVSU could build their own AI applications with Azure OpenAI service

CURRENT FOCUS

PowerBI will be able to connect directly into the central data platform in just a few steps

1. Select "Azure Synapse" from the "Get Data" dropdown

2. Select your table(s) from your desired endpoint

3. Build your report with the now available data sets

For more advanced users, custom SQL queries can be made to join data on the spot!

End users can refer to the Data Catalog for a better understanding of data and more accurate report building

Search for keyword will yield details such as all terms using the keyword and all reports where it appears

Table lineages can show the source of the table data and how it is curated

Detailed view of every term with the keyword

All reports using search word

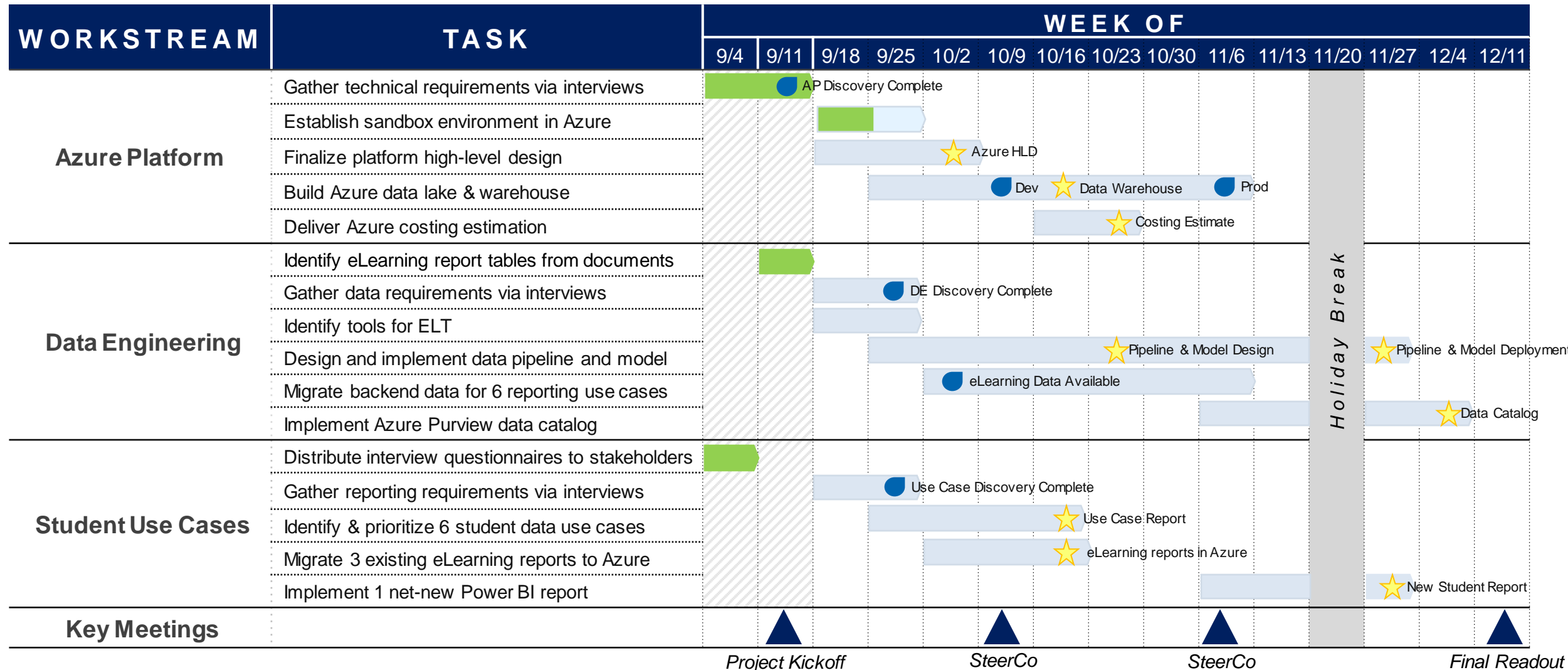*Status reflects integrity of term in catalog*

Term lineage

Formalized definition from data stewards

Related assets

Base data sources

A **comprehensive term profile** shows the formalized term definitions, related terms and reports, lineage details, etc.

High-Level Project Plan

Milestone
Deliverable

WORKSTREAM	TASK	WEEK OF														
		9/4	9/11	9/18	9/25	10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11
Azure Platform	Gather technical requirements via interviews		● AP Discovery Complete													
	Establish sandbox environment in Azure															
	Finalize platform high-level design				⭐ Azure HLD											
	Build Azure data lake & warehouse						● Dev	⭐ Data Warehouse		● Prod						
	Deliver Azure costing estimation						⭐ Costing Estimate									
Data Engineering	Identify eLearning report tables from documents															
	Gather data requirements via interviews				● DE Discovery Complete											
	Identify tools for ELT															
	Design and implement data pipeline and model								⭐ Pipeline & Model Design					⭐ Pipeline & Model Deployment	
	Migrate backend data for 6 reporting use cases					● eLearning Data Available										
	Implement Azure Purview data catalog														⭐ Data Catalog	
Student Use Cases	Distribute interview questionnaires to stakeholders															
	Gather reporting requirements via interviews				● Use Case Discovery Complete											
	Identify & prioritize 6 student data use cases						⭐ Use Case Report									
	Migrate 3 existing eLearning reports to Azure						⭐ eLearning reports in Azure									
	Implement 1 net-new Power BI report													⭐ New Student Report		
Key Meetings			▲ Project Kickoff					▲ SteerCo			▲ SteerCo					▲ Final Readout

Holiday Break

Appendix

Discovery interviews are underway

	DISCOVERY TYPE	GROUP	STAKEHOLDERS	SESSION
Data Advisory Committee	**Azure Platform Requirements**	*Azure Platform*	J Kunnen, B Vedders	✓ Friday, 9/1
		Security	L DeMott & D Van Sweden	✓ Wednesday, 9/6
		Network	J Kunnen, J McPherson, B Vedders, D Van Sweeden	✓ Friday, 9/8
	Data Management Requirements & Use Case Discovery	*Data Governance*	E Delgado, K Lodaya	Monday, 9/18
		Student Data & Reporting	C Buyarski, M Messner	Monday, 9/18
		eLearning	K Kenward, K Clark, C Cameron, MLodaya	Monday, 9/18
		Azure Platform	J Kunnen, B Vedders	Tuesday, 9/19
		Enterprise Applications	N Nelson, K Radlick, D Dean	Tuesday, 9/19
	Use Case Discovery	*Student Enrollment*	D Velez, P Batty	Wednesday, 9/20
		Student Affairs	M Grover, A Haight, A Campbell	Wednesday, 9/20
		Academic Affairs	A Lowen, F Ngassa, K VanderVeen	Thursday, 9/21
		IT	E Delgado, E Bellmore, E Kunnen, L DeMott	Monday, 9/25
		Student Data & Reporting	K Mushong, H Taylor, C Wieschhorster, A Jbara, M Coleman, J Isaak, M Jo Hills	Monday, 9/25

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