

Improving Student Outcomes: Data Analytics to Help Educators

IQ Brew

December 14, 2023



+



TRINITY BASIN
PREPARATORY

Introduction



Improving Student Outcomes: Data Analytics to Help Educators

December 14, 2023

8:30 – 10:00 a.m.

Featuring:

Florence Lowe, Founder & CEO of Alpha Genesis Labs
Conor Rogers, Data Fellow at Trinity Basin Preparatory



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SCHOOL SERVICES



Conor Rogers

Conor Rogers is the Data Driven Instruction Coordinator at Trinity Basin Preparatory, a charter school in the DFW area that serves over 6,500 students in grades PK-12. Conor works with district and school leaders to build data literacy across the district, ensuring that everyone has accurate and timely data in their hands to do their job effectively.

Conor was also the co-host of "The Bolt", a popular education podcast he co-hosted with Trey Garbers, the IT Director of Trinity Basin Preparatory, where they shared interesting stories and strategies from the district.



Trinity Basin Preparatory

To inspire every student to do more, expect more, and be more.



Trinity Basin Preparatory is a free public charter school that was founded in 1998.

Mission Statement

To inspire every student to do more, expect more, and be more. To make this mission a reality, every student and employee of Trinity Basin Preparatory and High Point Academy is expected to exemplify the core values of a TITAN.



10th Street Campus

[PK3 - 4th Grade](#)
831 W. 10th St.
Dallas, TX 75208
214.296.9302



Bolt Campus

[5th - 8th Grade](#)
412 W. Bolt St.
Fort Worth, TX 76110
817.539.6444



Grand Prairie Campus

[PK3 - 3rd & 6th Grade](#)
3116 S. Carrier Pkwy.
Grand Prairie, TX 75052
972.893.3442



High Point Academy Upper Campus

[6th - 12th Grade](#)
1256 Jim Wright Freeway
White Settlement, TX 76108
817.600.6401



Jefferson Campus

[5th - 8th Grade](#)
855 E. 8th St.
Dallas, TX 75203
214.941.4881



Mesquite Campus

[PK3 - 8th Grade](#)
2901 E. Meadows Blvd.
Mesquite, TX 75150
214.433.6770



Panola Campus

[PK3 - 8th Grade](#)
4400 Panola Ave.
Fort Worth, TX 76103
817.458.4222



Arlington Campus

[PK3 - 6th Grade](#)
6300 S. Collins St.
Arlington, TX 76018
(214) 946-9100



Ewing Campus

[PK3 - 4th Grade](#)
808 N. Ewing St.
Dallas, TX 75203
214.942.8846



High Point Academy South Campus

[PK - 6th Grade](#)
7241 Crowley Rd.
Fort Worth, TX 76134
817.600.6269



High Point Academy West Campus

[K - 5th Grade](#)
8300 West Freeway
White Settlement, TX 76108
817.600.1735



Leadbetter Campus

[PK3 - 8th Grade](#)
2524 W. Leadbetter Dr.
Dallas, TX 75233
214.442.2630



Pafford Campus

[PK3 - 4th Grade](#)
101 W. Pafford St.
Fort Worth, TX 76110
817.840.7501



Florence Lowe

Florence Lowe is the CEO of Alpha Genesis Labs which works with schools to improve their data, application usage and to derive business intelligence out of their own data to help improve student outcomes. Prior to that, she was COO at Synerzip, an agile software development company, preceded by 20 years experience in technology, finance, and investing at IBM Global Services, American Airlines, UBS Warburg, Capital One, AlixPartners, Hudson Advisors/Lone Star Funds, EZLynx, and iSight Partners.

Florence has an MBA from the University of Chicago Booth School of Business, a Masters in Computer Applications from Jawaharlal Nehru University and a BA (Hons) in Mathematics from the University of Delhi. She is also on the board of Broadway Dallas and on the Research and Innovation Council for the Office of Innovation & Research at the University of Texas in Dallas.

All your data in one place so you can focus on what matters:

Your Students



ALPHA
GENESIS LABS
FOR SCHOOLS



**DATA ENGINEERS
DATA VISUALIZERS
AND DATA SCIENTISTS
HELPING SCHOOLS
& EDUCATORS
IMPROVE STUDENT OUTCOMES
AND HELP MAKE REPORTING &
COMPLIANCE EASIER**



Agenda

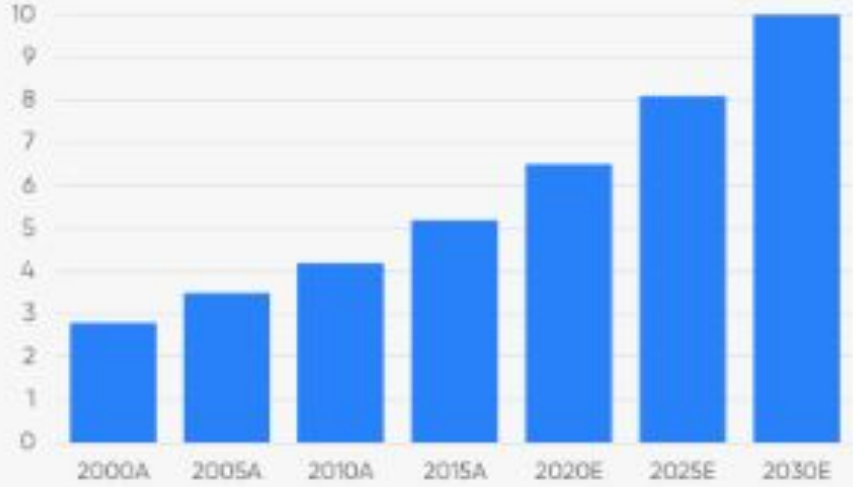
- State of the Union: Schools & EdTech
- Data Analytics at Trinity Basin Preparatory
- Best Practices & Challenges
- About AGL/Schools

State of the Union: Schools & EdTech



**Education is projected
to be a \$10 Trillion
industry by 2030**

Global Education and Training Expenditure (Trillion USD)



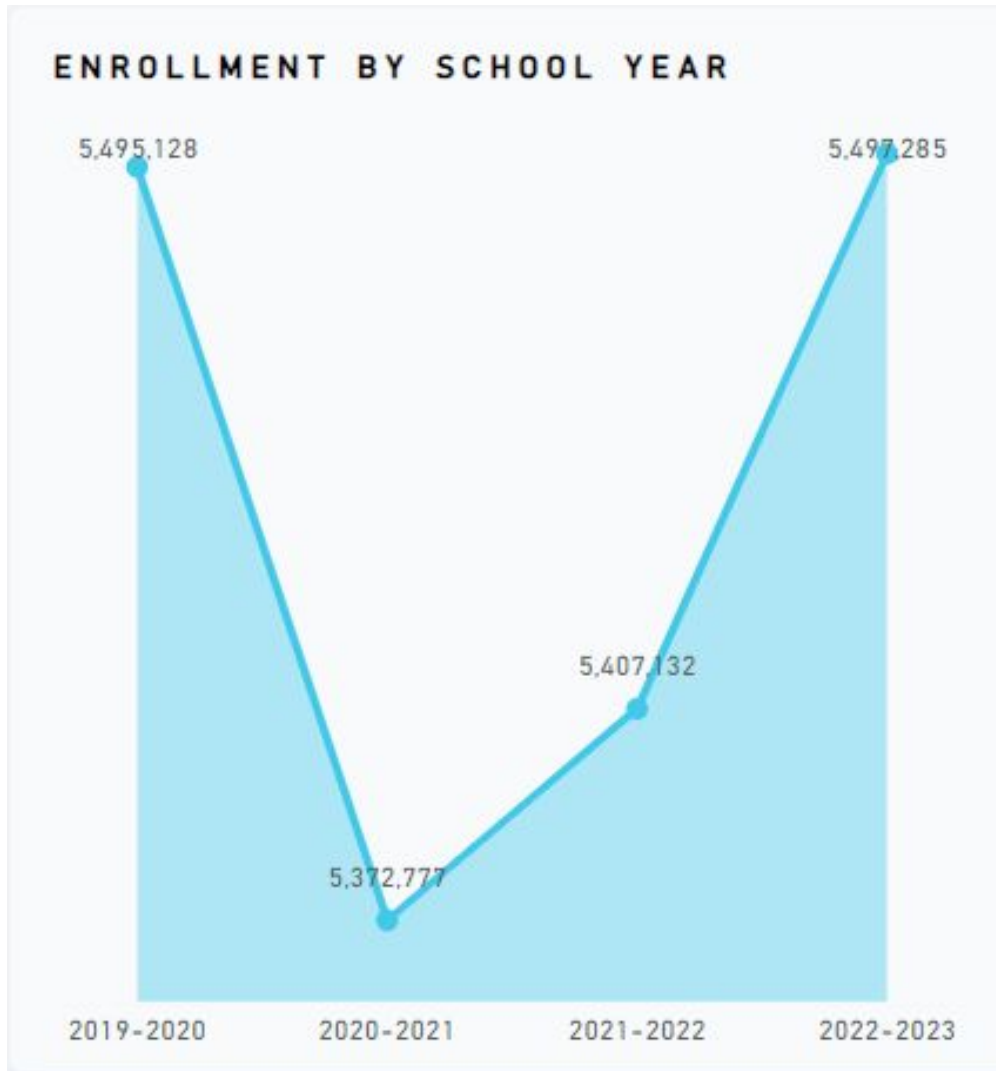
Source: HoloniQ and various underlying estimates from Goldman Sachs, GSV, BIS Capital, CIE

2030E Global Education and Training Expenditure (Trillion USD)



■ Pre-K ■ K-12 ■ Post Secondary ■ Corporate ■ Lifelong Learning

Source: HoloniQ and various underlying estimates from Goldman Sachs, GSV, BIS Capital, CIE

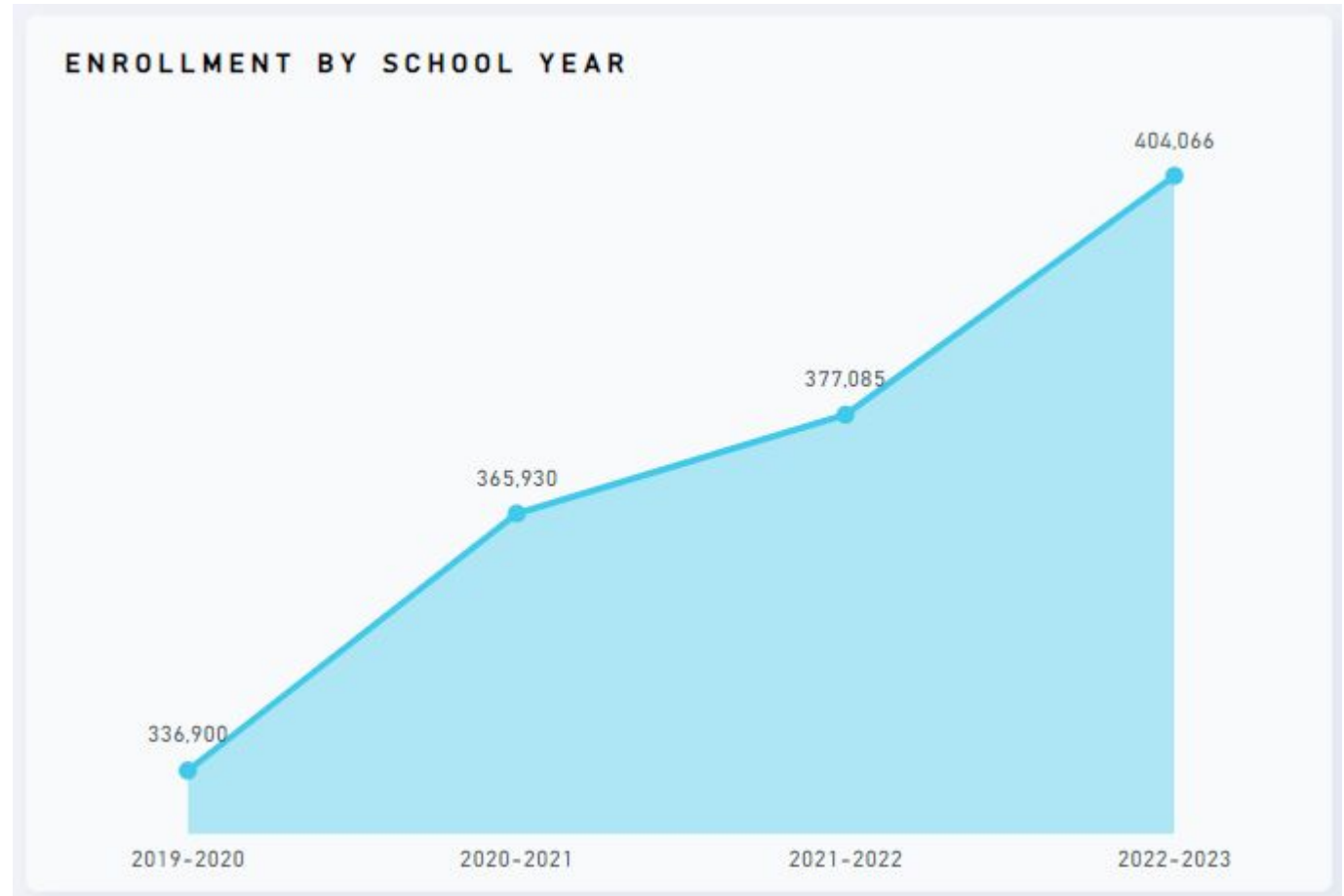


Meanwhile in Texas...

Source: TEA Data, <https://alphagenesislabs.com/texas-schools-enrollment-data/>



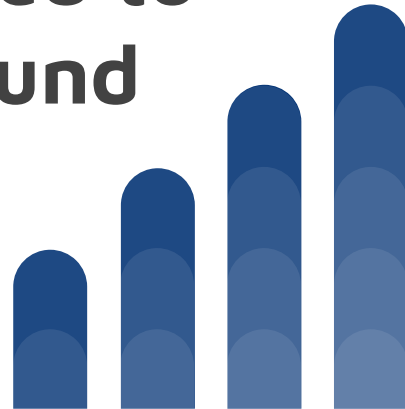
Charter Schools are booming



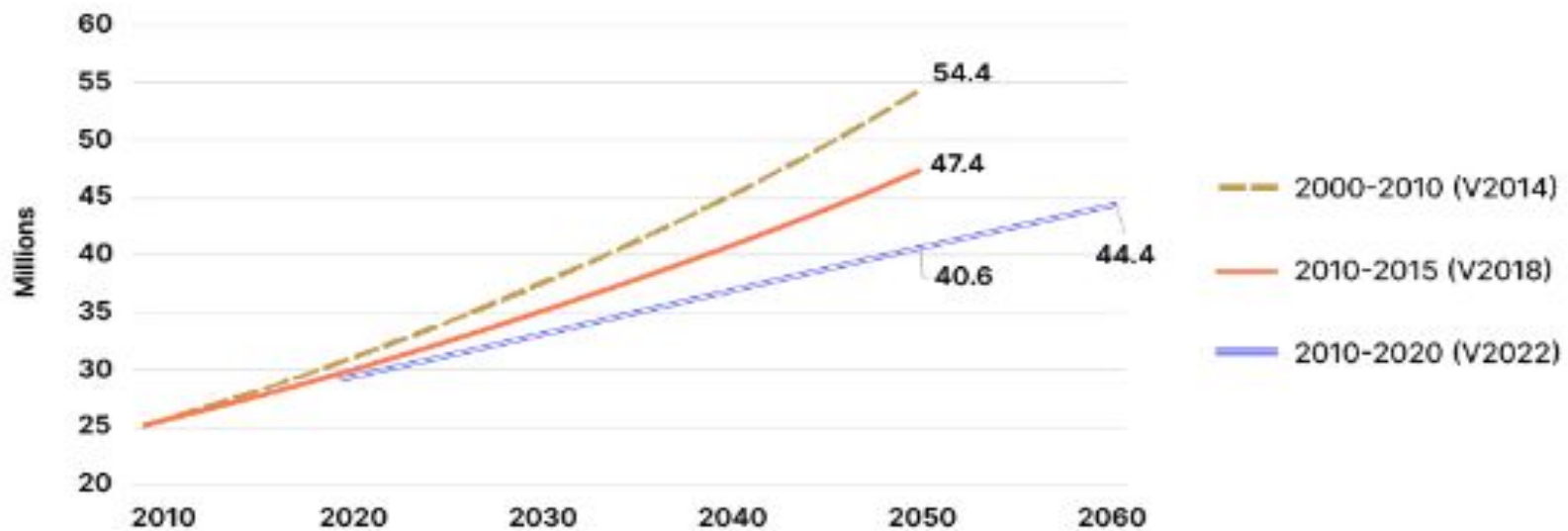
Source: TEA Data, <https://alphagenesislabs.com/texas-schools-enrollment-data/>

#2

**By 2036 Texas is projected to
have a population of around
35-40 million**



Projected Population Growth in Texas with Various Migration Scenarios



[View Projections](#)

SOURCE: Texas Demographic Center, Vintage 2014, 2018, and 2022 Population Projections

Source: <https://demographics.texas.gov/>

**These two predictions
together tell me we have an
unique challenge and
opportunity in Texas**

**... but that's
not all...**







Je cured you
ny asiera ou
bemuioler
rlislingz

IIs
aid chree
your:
IIs hwa





Rudyard Kipling

If you can keep your head when all about you
Are losing theirs and blaming it on you,
If you can trust yourself when all men doubt you,
But make allowance for their doubting too;

If you can wait and not be tired by waiting,
Or being lied about, don't deal in lies,
Or being hated, don't give way to hating,
And yet don't look too good, nor talk too wise

If you can dream - and not make dreams your master;
If you can think - and not make thoughts your aim;
If you can meet with Triumph and Disaster
And treat those two impostors just the same;

If you can bear to hear the truth you've spoken
Twisted by knaves to make a trap for fools,
Or watch the things you gave your life to, broken,
And stoop and build 'em up with worn-out tools

If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss,
And lose, and start again at your beginnings
And never breathe a word about your loss;

If you can force your heart and nerve and sinew
To serve your turn long after they are gone,
And so hold on when there is nothing in you
Except the will which says to them: 'Hold on!'

If you can talk with crowds and keep your virtue,
Or walk with Kings - nor lose the common touch,
If neither foes nor loving friends can hurt you,
If all men count with you, but none too much;

If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And - which is more - you'll be a Man, my son!"

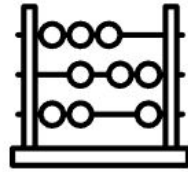
— Rudyard Kipling, If: A Father's Advice to His Son ²²²

Change is the only constant

Are we at another inflection point?



Globalization
& Growth



Global
Population
Changes



Future of Work
and Skills



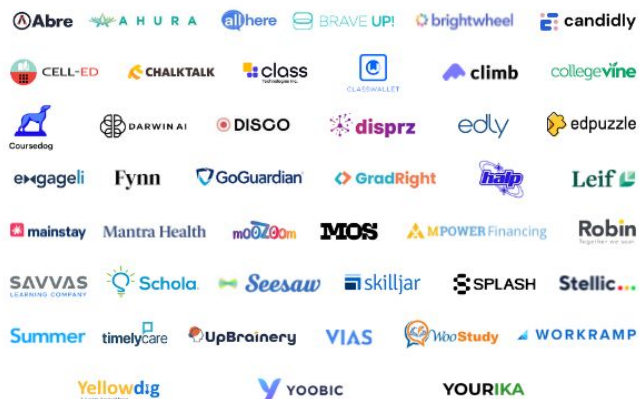
Advancements
in Technology

Source: www.holoniq.com/2030; Key Drivers in Education

But the objective remains the same



MANAGEMENT SYSTEMS



ONLINE LEARNING



LANGUAGE LEARNING



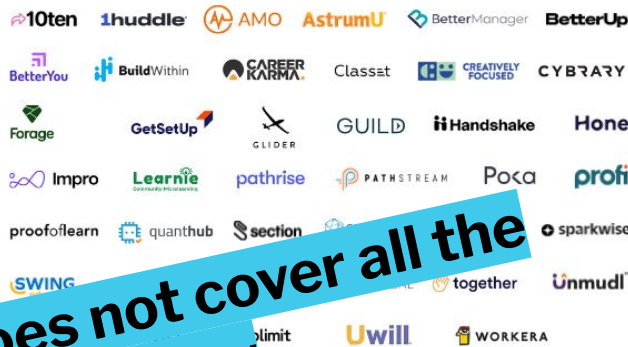
CONTENT



TUTORING & TEST PREP



WORKFORCE & SKILLS



The Ed-Tech Landscape is vast... this graphic does not cover all the applications available and in schools right now

ADVANCED TECHNOLOGY



TESTING



INTERNATIONAL EDUCATION



2023 NORTH AMERICA EDTECH 200

Holon IQ



Connecting student data. Once. And for all.

Ed-Fi securely and seamlessly connects education data systems.
With Ed-Fi, you'll have a complete, real-time view of every student.





AVAILABLE NOW
FOR: SCHOOL BASED ADMIN, DISTRICT LEVEL ADMIN

Leadership Analytics

Analytic Dashboards for district and school leaders built to show key metrics and allow for easy data exploration.

[See More Details](#)



AVAILABLE NOW
FOR: TECHNICAL LEAD

Tech Console

Intuitively configure administrative settings and onboard school districts.

[See More Details](#)



AVAILABLE NOW
FOR: TEACHER, SCHOOL BASED EDUCATOR, SCHOOL BASED ADMIN

Rally Analytics Platform

Student data analytics platform for student performance and well being.

[See More Details](#)



COMING SOON
FOR: REGISTRAR

Student Passport

Enables you to request select information for students transferring into your school from other Exchange districts and fulfill requests for outgoing students.

[See More Details](#)



Michael & Susan Dell
FOUNDATION



AVAILABLE NOW
FOR: SCHOOL BASED ADMIN, DISTRICT LEVEL ADMIN

Leadership Analytics

Analytic Dashboards for district and school leaders built to show key metrics and allow for easy data exploration.

[See More Details](#)

Technical Information

Integration Steps

General Exchange integrations (e.g., SIS integration to ODS; single sign-on integration to Administrative Console), Assessment loads and integrations (dependent on vendors used), Role-setting for school and district-level users

Type of Data Needed for Application

SIS and desired assessments used by the district

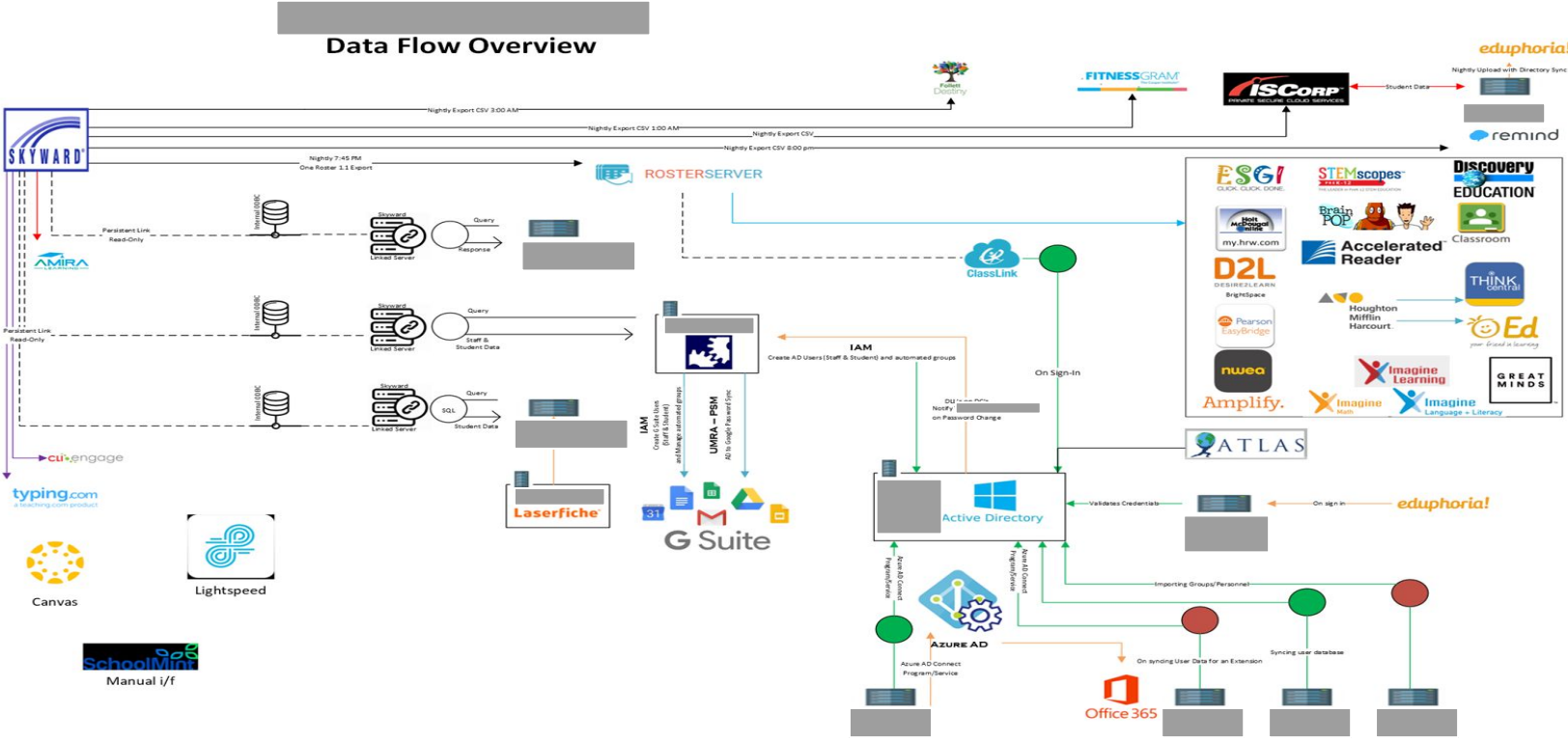
Level of Effort to Onboard

Light, once the infrastructure is in place.



Michael & Susan Dell
FOUNDATION


Educators and education administrations should *not* have to deal with this level of complexity



But this is real

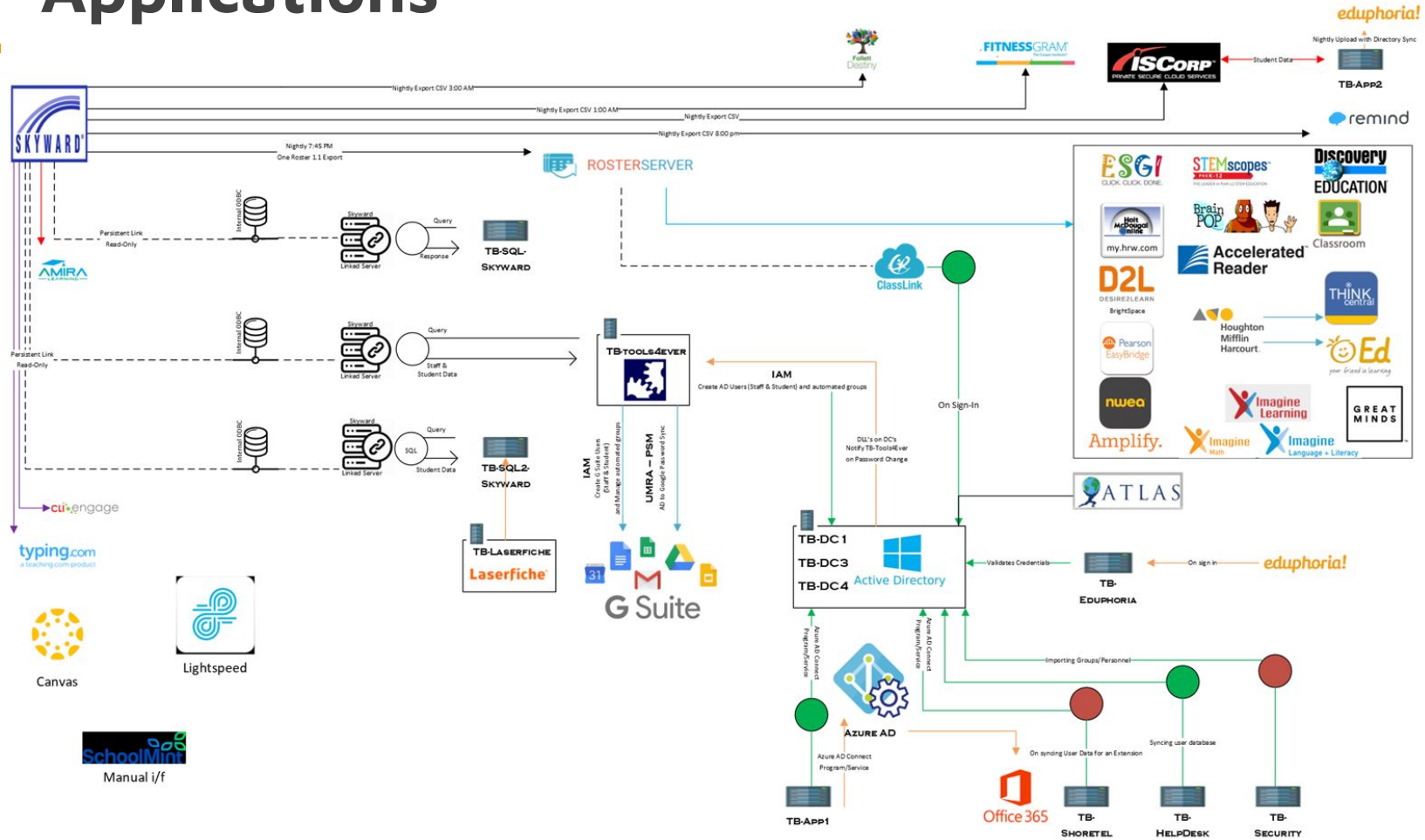
Life should be more fun that that...





Data Analytics at Trinity Basin Preparatory

TBP Applications

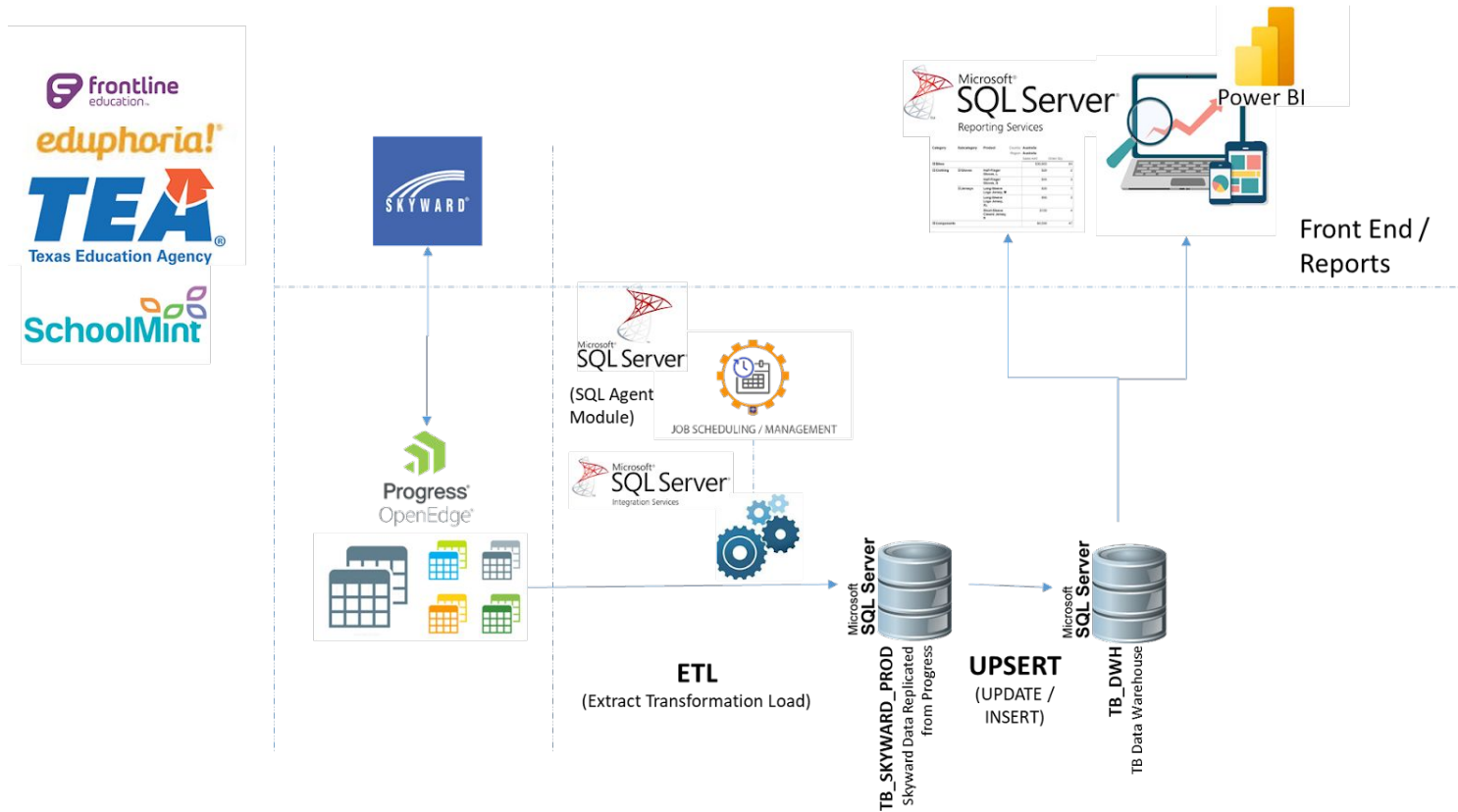


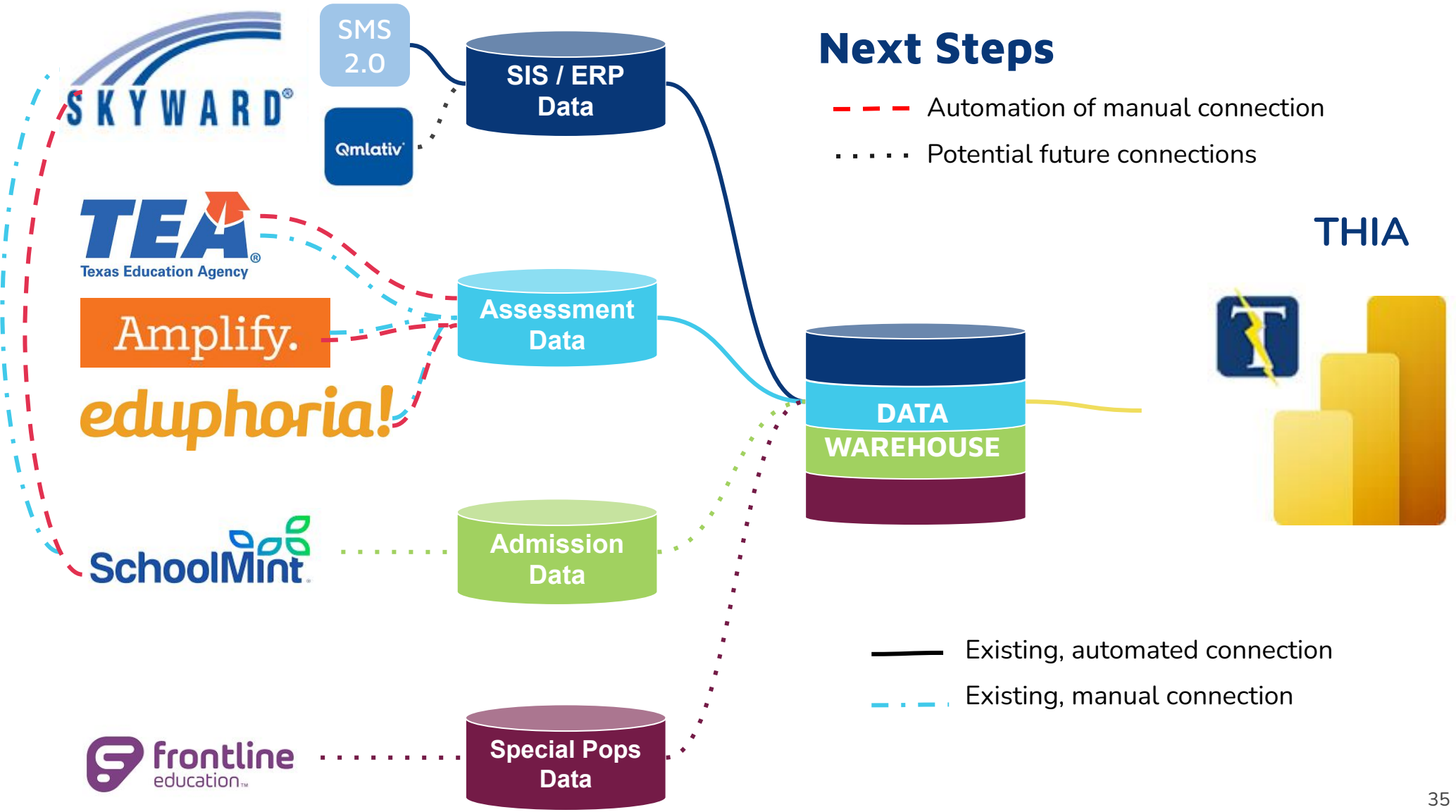
TBP Reporting Infrastructure



- Data updated 8 times a day
- Reports built specifically for:
 - Administration
 - PEIMS
 - Educators
 - Teachers
- Leverages licenses already owned by the school
- Additional features:
 - Drill through
 - Student-centric
 - Row-level security leveraging Microsoft permission groups for teachers

Data Warehouse Architecture






Administration Reports


Admissions

File Share Export Chat in Teams Get insights



THIA (Titan Hub for Information & Analysis)

- Detail by School and Gra... ▼
- Student Attendance ▼
- Trends - District Enrollme... ▼
- Trends - School Enrollment ▼
- Trends - District Withdra... ▼
- Trends - New and Return... ▼
- Trends - School Withdra... ▼
- Trends - Withdrawals by ... ▼
- Open Seats**
- Open Seats by School



Open Seats
for 09/12/2023


Open Seats	Enrolled	Capacity
1,212	6,626 85%	7,838

EntityName	Enrolled												Total	EntityName	Open Seats												Total																																									
	P3P	PK	KG	01	02	03	04	05	06	07	08	09			10	11	12	P3A	P3P	PK	KG	01	02	03	04	05		06	07	08	09	10	11	12																																		
10th Street	10	47	54	65	63	70	71																										393	10th Street	7	10	13	12	23	25	18	17																										125
Ewing	7	59	57	85	80	71	83																											454	Ewing	8	13	1	9	3	8	17	5																									64
Jefferson								143	198	145	164																							650	Jefferson																																	118
Ledbetter	13	43	70	48	74	59	43	38	47	37	29																						517	Ledbetter	4	7	17	18	18	14	29	1	10	1	11	19																					149	
Mesquite	15	78	90	90	93	74	63	78	89	56	65																						812	Mesquite	-1	5	2	-2	-2	-5	14	3	18	7	16	31																				86		
Bolt								112	147	129	123																						511	Bolt																																	65	
Pafford	25	100	120	121	112	105	99																										734	Pafford	8	35	20	12	11	20	27	33																									166	
Panola	13	67	73	68	75	82	70	81	84	83	66																						779	Panola	3	7	13	15	20	13	6	18	15	12	13	30																					165	
Grand Prairie	13	34	34	23	27	31					43																						221	Grand Prairie	4	7	6	10	21	17	13					5																					83	
HPA West				60	89	71	87	92	77																								476	HPA West				28	-1	17	1	-4	19																									60
HPA South		18	51	56	64	77	66	65	48																								445	HPA South				22	15	10	2	-11	7																								45	
HPA Upper												120	118	109	80	82	64	61															634	HPA Upper																																	86	
Total	96	446	609	645	659	656	587	594	776	568	556	80	82	64	61	6,626																		Total	33	84	94	117	103	111	114	73	150	16	104	140	16	14	32	11	1,212																	

Data Last Updated: 9/12/2023 8:46:39 AM
Data is scheduled to be updated eight times daily, 10 minutes before these times: 7AM, 8AM, 11AM, 1PM, 2PM, 3PM, 3:30PM and 4PM Central Time. Last updated time is displayed on each report, and is the actual time the data update completed.


Enrollment

File Share Export Chat in Teams Get insights



THIA (Titan Hub for Information & Analysis)

- Enrollment and Attendance
- District Reports with De...
- Detail by School and Gra...
- Student Attendance
- Trends - District Enrollme...
- Trends - School Enrollment
- Trends - District Withdra...
- Trends - New and Return...
- Trends - School Withdra...
- Trends - Withdrawals by ...



Enrollment & Attendance Dashboard

for 09/12/2023

Filters

Report Date

Today

School

All

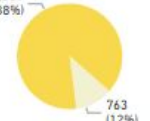
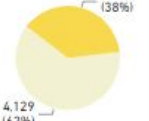
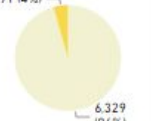
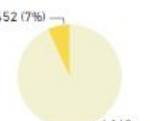
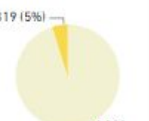
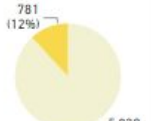
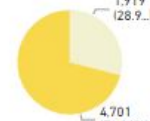

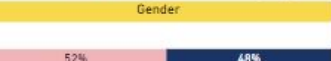
Grade

All

School Summary							
School	Present	Enrolled	%P	Capacity	Open	Absent	%E
Mesquite	812	812	100%	898	86	0	90%
Panola	779	779	100%	944	165	0	83%
Pafford	730	734	99%	900	166	4	82%
Jefferson	650	650	100%	768	118	0	85%
HPA Upper	633	634	100%	720	86	1	88%
Ledbetter	512	512	100%	666	154	0	77%
Bott	511	511	100%	576	65	0	89%
HPA West	476	476	100%	536	60	0	89%
Ewing	453	454	100%	518	64	1	88%
HPA South	445	445	100%	490	45	0	91%
10th Street	393	393	100%	518	125	0	76%
Grand Prairie	219	220	100%	304	84	1	72%
Total	6,613	6,620	100%	7,838	1,218	7	84%

Grade Summary							
Grade	Present	Enrolled	%P	Capacity	Open	Absent	%E
P3A	147	147	100%	180	33	0	82%
P3P	95	95	100%	180	85	0	53%
PK	443	446	99%	540	94	3	83%
KG	607	608	100%	726	118	1	84%
01	643	645	100%	748	103	2	86%
02	658	658	100%	770	112	0	85%
03	655	655	100%	770	115	0	85%
04	586	586	100%	660	74	0	89%
05	594	594	100%	744	150	0	80%
06	776	776	100%	792	16	0	98%
Total	6,613	6,620	100%	7,838	1,218	7	84%

Capacity	Enrolled	Open Seats	Present
7,838	6,620 84%	1,218	6,613 10...

Economically Disadvant.	LEP	RTI
 <p>5,857 (88%)</p> <p>763 (12%)</p>	 <p>2,491 (38%)</p> <p>4,129 (62%)</p>	 <p>291 (4%)</p> <p>6,329 (96%)</p>
DYS	504	SPD
 <p>452 (7%)</p> <p>6,168 (93%)</p>	 <p>319 (5%)</p> <p>6,301 (95%)</p>	 <p>781 (12%)</p> <p>5,839 (88%)</p>
Hispanic Ethnicity	Race	
 <p>1,919 (28.9%)</p> <p>4,701 (71.01%)</p>	 <p>4,482</p> <p>1,059</p> <p>1,048</p> <p>194</p> <p>34</p> <p>White Black or African American Indian or Alaska Asian Native Hawaiian or Other</p>	
Gender		
 <p>52%</p> <p>48%</p>		

Data Last Updated: 9/12/2023 6:46:29 AM

Executive Overview



THIA for Teachers

Attendance

% Present (Filtered)	Days Present (Filtered)	Days Absent (Filtered)	Year to Date Total % Present
93.8%	76	5	93.8%
92.6%	75	6	92.6%
100.0%	81	0	100.0%
97.5%	79	2	97.5%
88.8%	71	9	88.8%
98.8%	80	1	98.8%
97.5%	79	2	97.5%
92.6%	75	6	92.6%

Student Spotlight

Student Dashboard for [Redacted]

Data Last Updated: 12/12/2023 6:51:09 AM

STUDENT PROFILE

09-Aug-23

Entry Date

F

Gender

Hispanic

Race

Dallas

City

Email

(Blank)

Withdrawal Date

Birthday

SPANISH

Home Language

EMERGENCY CONTACTS

	First Name	Last Name	Relation	PickUp?	Lives w/Stude
1	[Redacted]	[Redacted]	Mother	Y	N
2	[Redacted]	[Redacted]	Father	Y	N
3	[Redacted]	[Redacted]	Grandparent	Y	N

SIBLINGS (@TBP)

Sibling Name	Gender	School	Grade
[Redacted]	[Redacted]	[Redacted]	[Redacted]

SCHOOL INFO.

Mesquite 03

RETURNING

PROGRAMS

504 DYS LEP RTI SPD Eco. Dis.



ATTENDANCE



● Excused ● Unexcused

OFFENCES

CURRENT COURSES

Prd	Course	Teacher	6W1
6	21st CENT LIT	[Redacted]	100
3	Accelerated Instruction 03	[Redacted]	
6	Art 03	[Redacted]	100
4	Mathematics 03	[Redacted]	79
6	Physical Education 03	[Redacted]	
2	Reading Language Arts 03	[Redacted]	88
5	Science 03	[Redacted]	100
1	Social Studies 03	[Redacted]	100

ASSESSMENTS

Assessment	Language Art	MATH	Reading
AMPLIFY ASSESSMENT			65.78
CBA / TBA ASSESSMENT		48.00	50.00
MCLASS DIBELS			31.82
NWEA ASSESSMENT	24.71	23.14	
TBTA ASSESSMENT		43.33	

Student Data Sheet

Grade	Retainee Y/N	New this year Y/N	First Entered District Date	Ethnicity (H/W/AAA)	SPED Y/N	504 Y/N	Speech Y/N	LEP Y/N	ESL Y/N	RTI Y/N	Dyslexia Y/N	Reading TBA 1	Reading TBA 2	Reading TBA 3	Reading TBA 4	Reading TBA 5	Reading Map BOY	Reading Map MOY	Reading Map EOY	Reading Interim 1	Reading Interim 2	mClass BOY	Math TBA 1	Math TBA 2	Math TBA 3	Math TBA 4	Math TBA 5	Math Map BOY	Math Map MOY	Math Map EOY	Math Interim 1	Math Interim 2	Science TBA 1	Science TBA 2	Science TBA 3	Science TBA 4	Science TBA 5	Science Map BOY	Science Map MOY				
06	N	Y	Aug 10, 2022	AI / AN	N	N	N	Y	Y	N	N	50	29				34	16		57				27	43				42	65		44		93	85						38		
08	N	N	Aug 21, 2017	H	N	N	N	N	N	N	N	82	59				37	43		60				13	0				20	16		39		65	73						61	35	
08	N	N	Aug 26, 2013	H	N	N	N	Y	Y	N	N		68				60	36							47			53	64		37			67						66	80		
08	N	N	Aug 11, 2021	H	N	N	N	Y	Y	N	N	91	73				62	68		77					87			53	84				94	87						66	93		
07	N	N	Aug 29, 2014	H	N	N	N	Y	Y	N	N	25	50				10	6		37				25	28				17	11		42		65	55							24	



Best Practices & Lessons Learned

Achievements & Best Practices

- Helped improved quality of student data
- Eliminated the need to manually calculate Enrollment
- Built a working data warehouse, using inhouse systems (PowerBI & SQL Server)
- Built out reports and dashboards for TBP administrators and teachers...

Best Practices

- Clean data at the source
- Changes to policies in how we enter data and what we use each field for
- Show your end-users the “why,” - e.g. if you don’t want a messy dashboard

Challenges

- Big ambitious plan, too few resources, too many asks, no clear business owner
- With a new and small team, AGL made forced and unforced mistakes
 - 2022 school start was not fun... TBP & AGL worked together to align processes with data and application needs (who is enrolled, how to take care of no-shows, etc.)
 - 2023 challenges included
 - HPA acquisition had a large impact
 - Assessment data loading took longer than expected or desired
 - Data load process was short staffed, and with short experience
 - Enrollment/Student onboarding process

... that said, we still managed to launch THIA & THIA for Teachers, while providing other management and data/application related support

Challenges

- At the mercy of different vendors (Cambium and MAP) for how/when we get assessment data.
- Where does this data analysis live?
 - A data dashboard is not worth the gigabytes it takes up if people will not use it to act differently

Challenges

- Management/Technology consulting
- Data & Application support mainly to PEIMS (Skyward) and Enrollment (SchoolMint)
- Integration Support between SchoolMint & Skyward
- Building and maintaining in-house database and data warehousing system
- Building out and maintaining reports for use by administrators and teachers
- Executive support and buyin
- Different people thought the project was different things
- Technical matters are a HUGE deal

About AGL/S

Alpha Genesis Labs ® for Schools (AGL/S) is a data & cloud services company helping schools with data engineering & reporting services.

- Data Identification & Cleaning
- Data Integration
- Data Warehouse
- Data Reporting

All your data in one place so you can focus on what matters:

Your Students

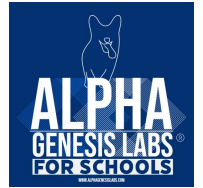


ALPHA
GENESIS LABS
FOR SCHOOLS



**DATA ENGINEERS
DATA VISUALIZERS
AND DATA SCIENTISTS
HELPING SCHOOLS
& EDUCATORS
IMPROVE STUDENT OUTCOMES
AND HELP MAKE REPORTING &
COMPLIANCE EASIER**





Alpha Genesis Labs Team



Florence Lowe
Founder, CEO



Kimberly Moore
VP of Product & Analytics



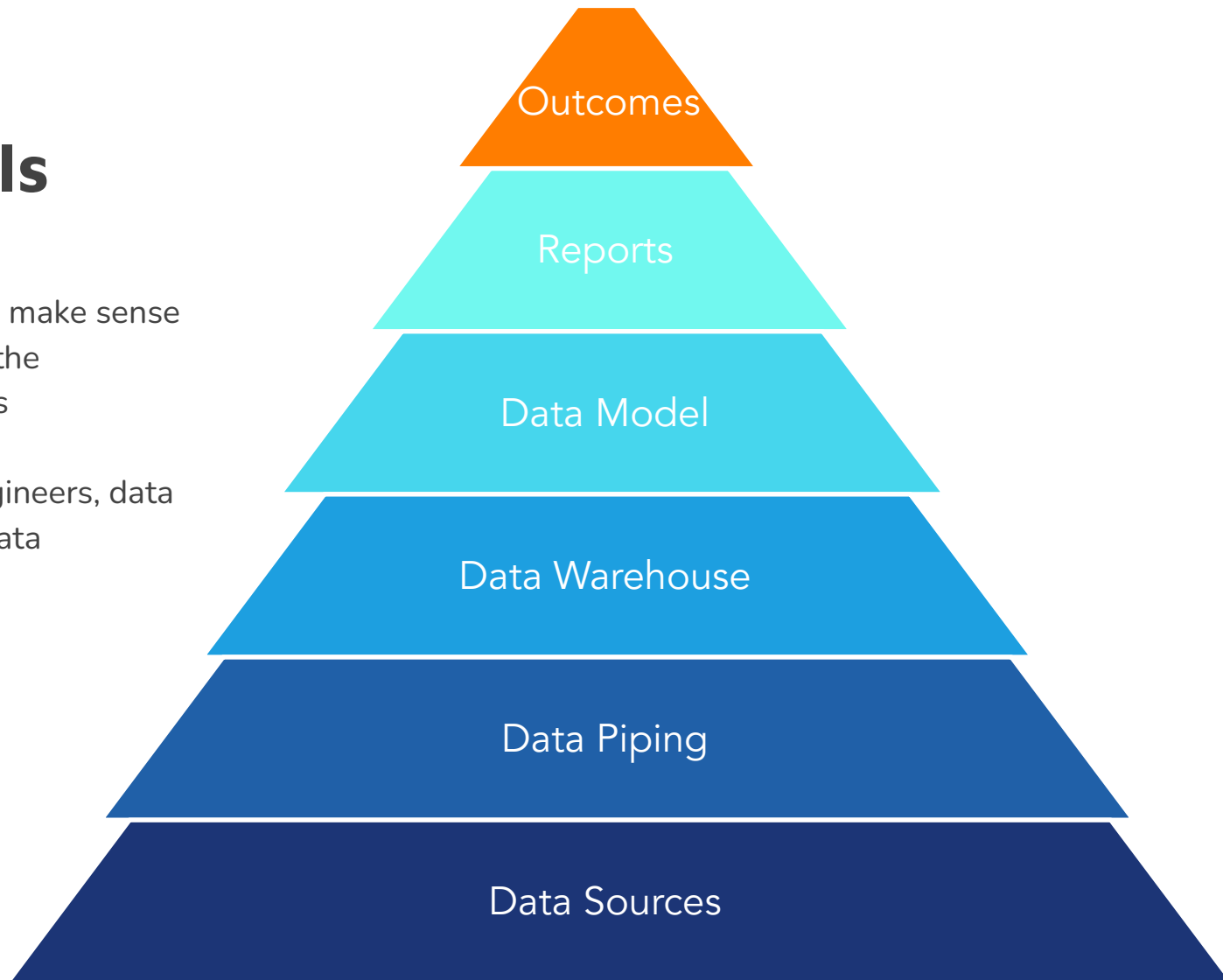
Data Engineers

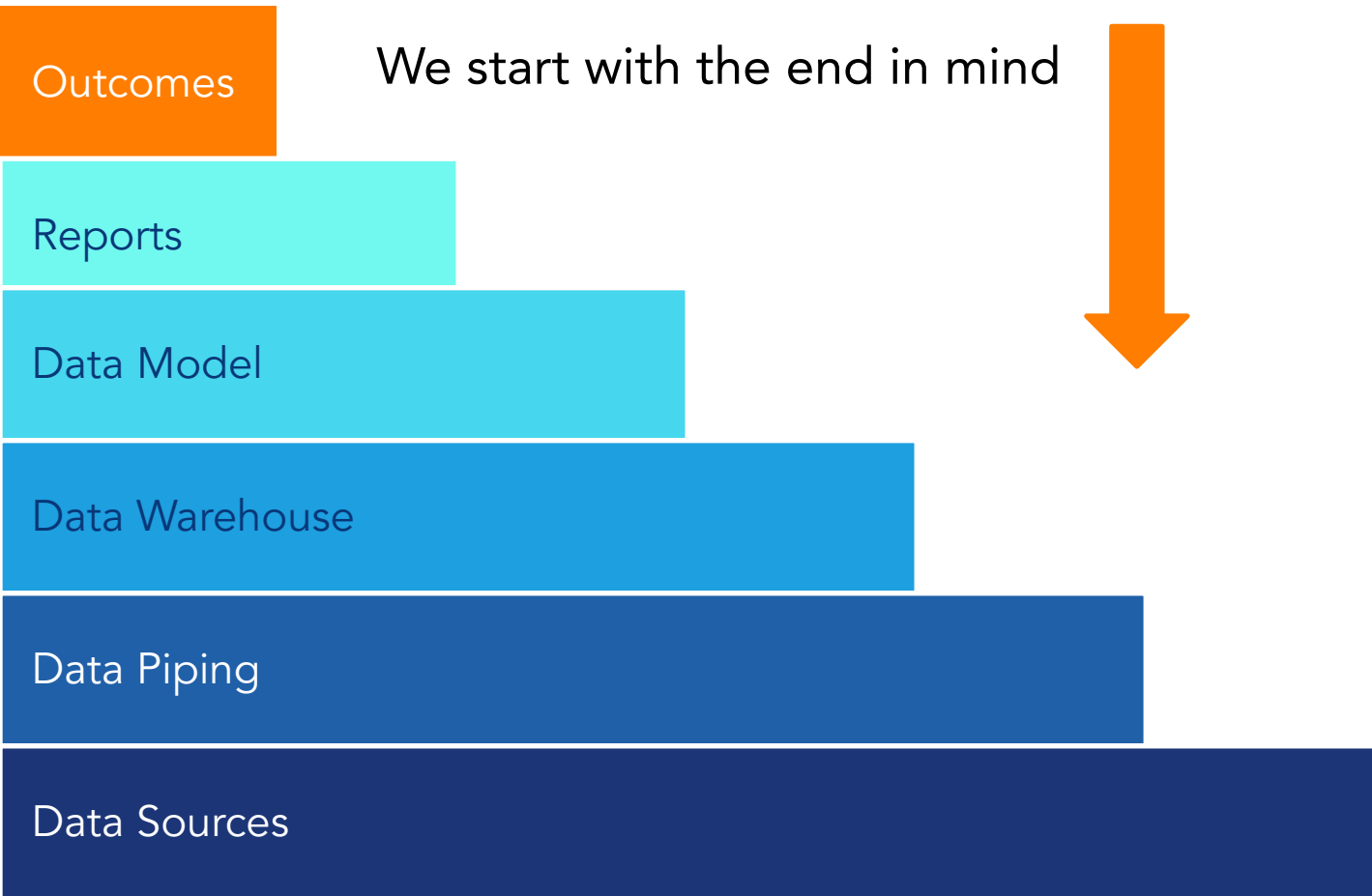
Data Analysts & Visualizers

AGL for Schools

AGL works with schools to help make sense of all the data generated by all the applications used by the schools

We are data plumbers, data engineers, data analysts, data visualizers, and data scientists.



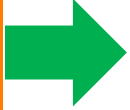


But also understand the challenges and roll up our sleeves

The End Game



Outcomes



Reports

Data Model

Data Warehouse

Data Piping

Data Sources

- Collaborate with schools to understand desired outcomes
- Cross pollinate good ideas across schools and from other industries
- Understand state and federal mandates

From data that you already have...

Outcomes

Reports

Data Model

Data Warehouse

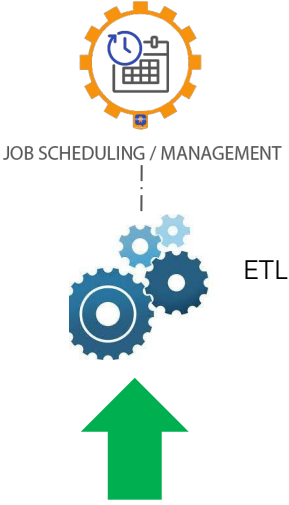
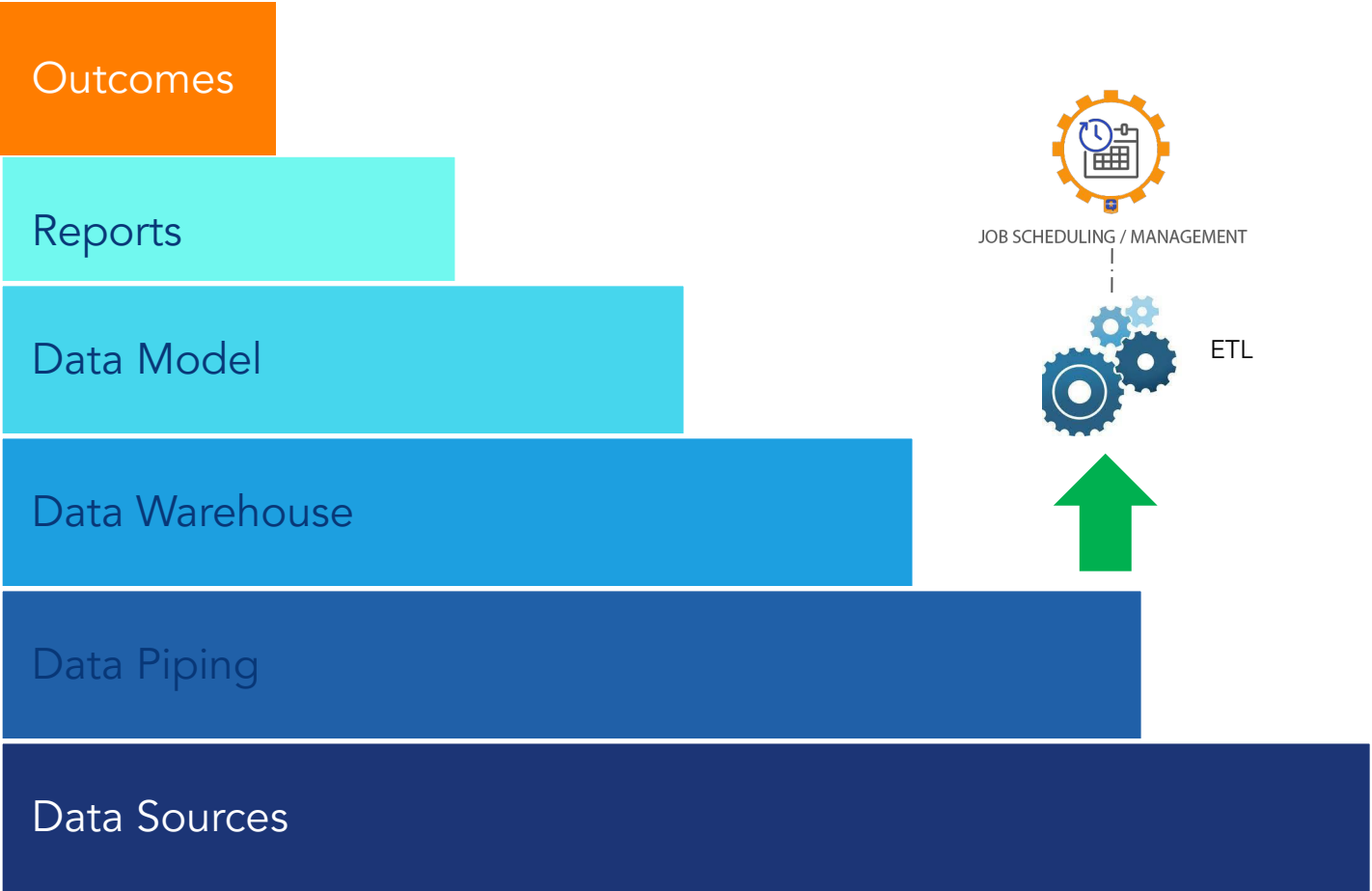
Data Piping

Data Sources



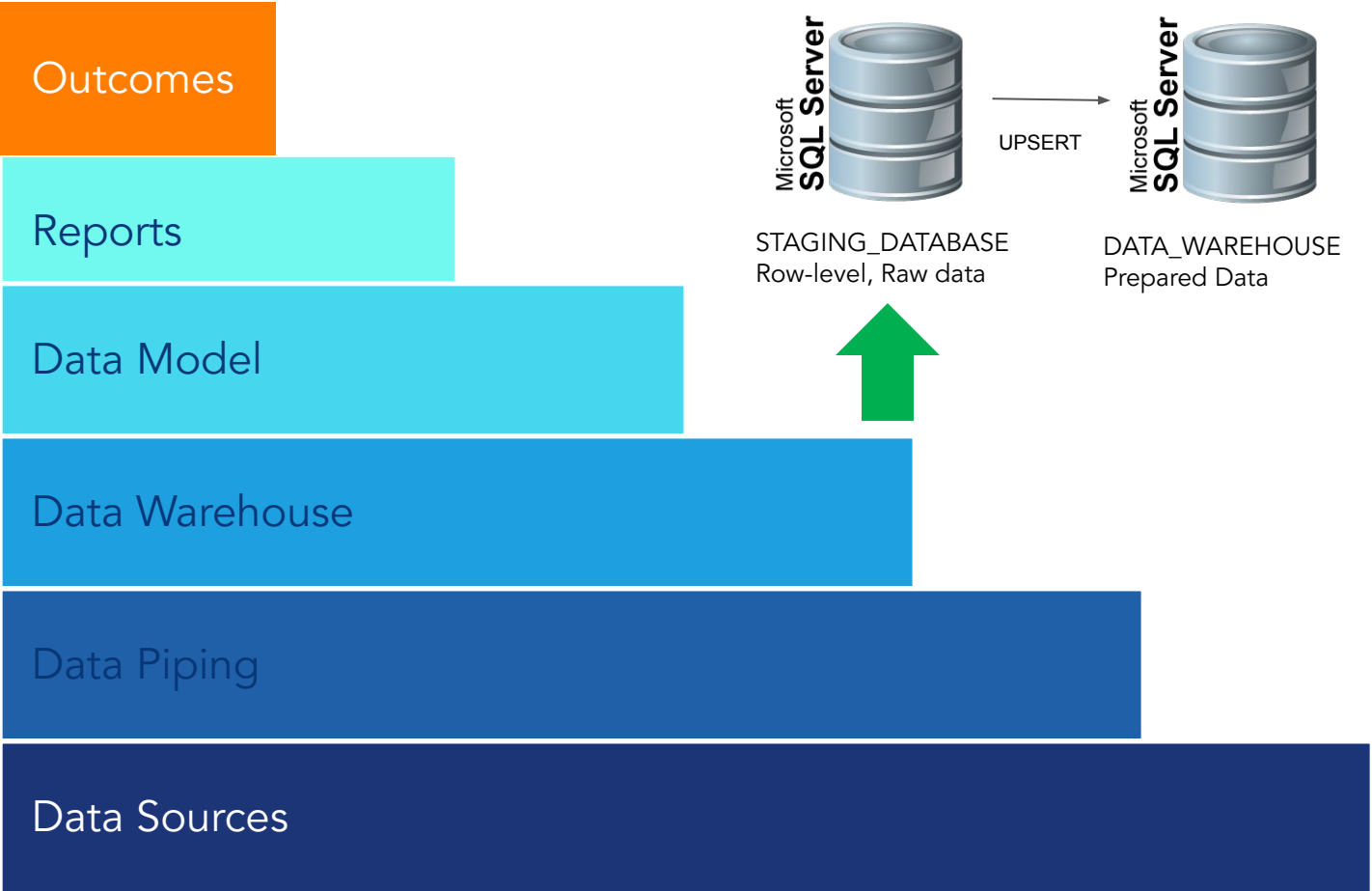
- We extract data from a variety of sources and applications
- We help your teams:
 - Define data standards
 - Identify application settings and process issues
 - Cleanse and transform the data
- We manage & automate the data connection and extraction process

The technical stuff: Data Extraction, Cleaning & Automation



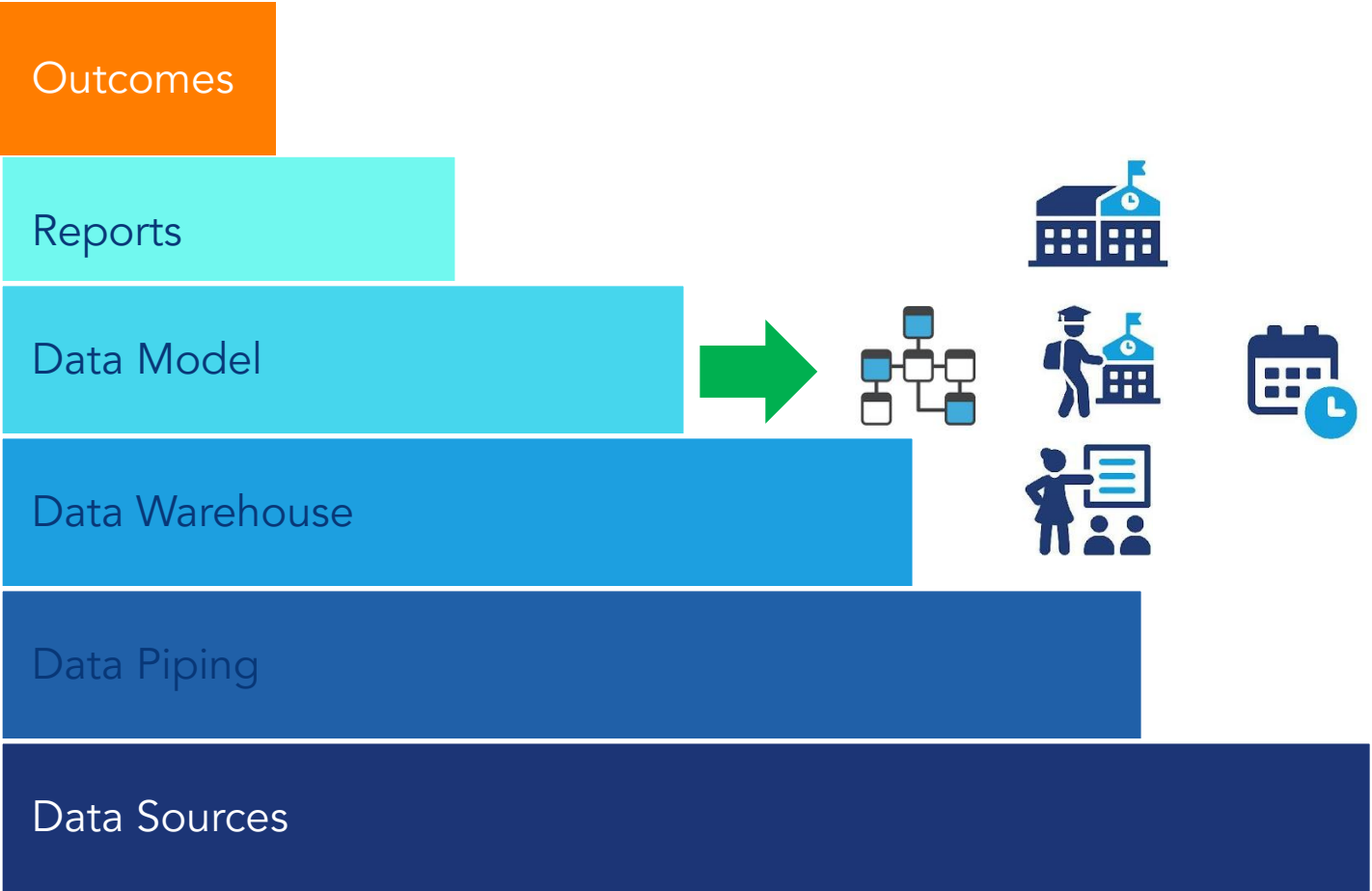
- We build, customize, and automate data extractions, transformations, and loading (“ETL”) from a variety of data sources

The technical stuff: We create a data warehouse for your data



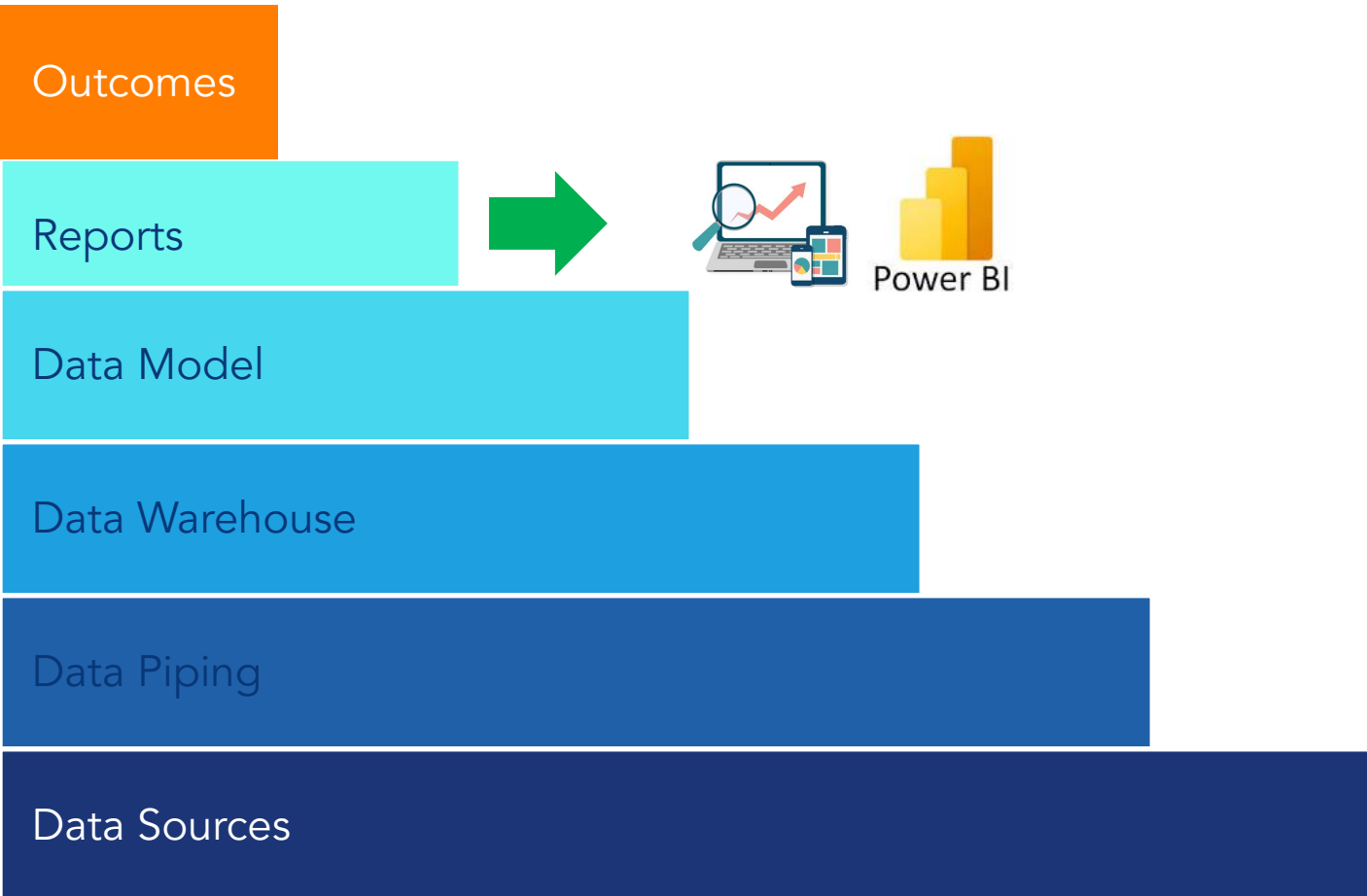
- Staging database
- Data warehouse

The technical stuff: Good data models lead to reporting flexibility, which leads to insights



- The reports are based on data models we create that allow us to dice and slice student, campus, teacher data across different academic years

But first, seek to understand



- We build reports and dashboard
- to bring together in one system a view across
 - Enrollments
 - Attendance
 - Student Behavior
 - Grades
 - Assessments
 - Teacher Data
 - Employee Data
 - Financial Data
 - Reporting Data
- We do it in your environment or can host it for you

We use Design Thinking + Lean + Agile Sprints



This means, you don't have to wait months before you can start playing with reports we build...