

The Wisconsin Department of Public Instruction



# **An Overview to MDAT**

the

# **Multi-Dimensional Analytic Tool**



# Wisconsin's Longitudinal Data System (LDS)



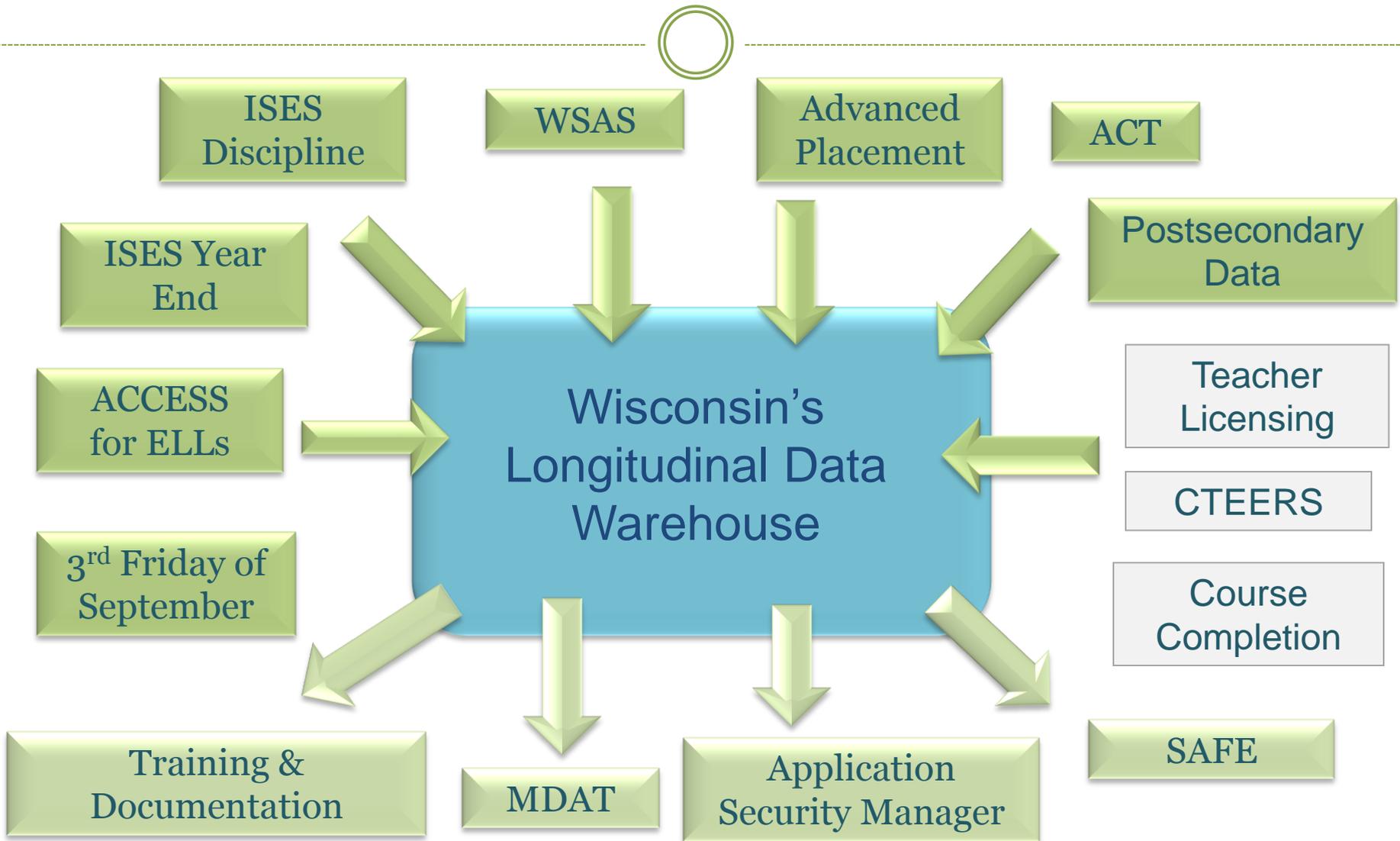
## ○ The LDS contains many elements:

- Data Warehouse
- Reporting Tools (web-based)
  - MDAT
  - SAFE
- Security Applications
  - Application Security Manager
- Professional Development

## ○ In the future, the LDS will include:

- Course completion data
- Growth reports
- Postsecondary enrollment data

# Wisconsin's Longitudinal Data System



# What Makes MDAT Unique



- The first analysis tool of the LDS Project.
- Allows users to select variables and filters to answer questions of their choice.
  - These variables and filters may be selected in a variety of combinations to look at different “angles” of a question.
- Users have access to data and variables based on their User Role.
  - So, some users will be able to drill-down to student-level information.
  - Others will look only at summary data.

# LDS Application Security Manager: A Security Solution



- MDAT allows school district officials identified by their school board as having a legitimate educational need to drill down to student-level information
- Federal and Wisconsin laws protect student privacy
  - Wisconsin Statute 118.125
  - Family Educational Rights and Privacy Act (FERPA—34 CFR Part 99)
  - Privacy and Wisconsin's Longitudinal Data System
- DPI's solution to safeguard confidential data: a security tool, or Application Security Manager

# The LDS Application Security Manager: Overview



- Application Security Manager is a tool of the LDS, one that manages...
  - Who can *control access* to secure applications
  - Who *has access* to secure applications
  - What a user can see/do within an application (*user roles*)
    - ✦ Which groups of student data the user can access/view

# User Rights: Tiers of Access



- The District Application Administrator (DAA) for MDAT assigns access to personnel in the district authorized as having a legitimate educational need to use data.
  - See [DPI's Pupil Data Privacy Presentation](#) for more information
- Applications may have different tier structures
- MDAT has five tiers

# MDAT User Roles



Roles	Role Description
Tier 1	Student level, all variables, download option
Tier 2	Student-level, all variables
Tier 3	Student-level, no economic indicators
Tier 4	Summary* reports, all variables
Tier 5	Summary* reports, no economic indicators

*\*The summary reports to which you have access may contain small group sizes, and should therefore be treated as confidential.*

# MDAT Tiers: Expected Uses



<b>Roles</b>	<b>Expected Uses</b>
Tier 1	Conduct in-depth analysis; combine MDAT downloads with local data
Tier 2	Repeated short-term access to student-level information
Tier 3	Improvement planning; no legitimate need to know economic status
Tier 4	Need for aggregate student level data, no student-level information necessary (reporting)
Tier 5	Data trainings, basic school-level analysis For CESA staff completing district research, school boards, classroom teachers

# Variables and Filters



- The MDAT application allows an authorized user to display tables and graphs based upon a variety of variables.
- **Variables** currently include:
  - Subject or Content Areas (reading, math)
  - Demographics (disability status, gender, grade level, race/ethnicity, etc)
  - Mobility factors (FAY status for district or school)
  - Student behavior

# Variables and Filters



- Further, the cohort may be broken down more specifically using **filters**.

## For Example:

- Specific grade level
- Specific primary disability
- English Language Proficiency level

# Variables vs. Filters



- **Variables**

- Investigate a relationship.
- Compare different ideas (e.g. grade level and English proficiency) within a common metric (e.g. one year change in scale score.)

- **Filters**

- Define which individuals or groups will be included in the analysis.
- Refine results of your guiding question.

# Variables and Filters: Roles and Access



- If your identified role and level of access in the school does not authorize reports that include the variables or filters indicated--
  - Padlocks may appear next to some variables and filters
- The download option: only available to Tier 1
- Tiers 1-3, who have access to student-level data, will only be able to access data for students in their school, for the specified query.
  - Not able to view student-level information from the district or state comparison data

# Interpreting MDAT Data



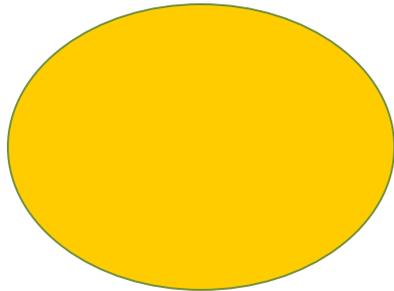
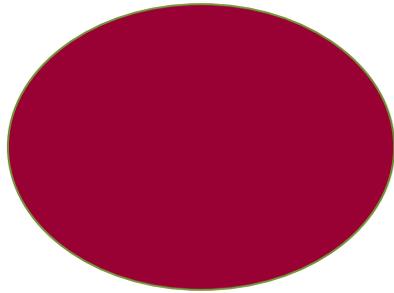
- **Data Sources:**
  - WKCE scores from WKCE results
  - Other data from WSAS and/or ISES
    - ✦ 3<sup>rd</sup> Friday of September
    - ✦ Year End
    - ✦ Discipline Collection
- **MDAT uses three years of WKCE data**
  - Shows longitudinal cohort growth from one school year to the following school year.
  - Example: change from 2007-2008 school year (November test) to 2008-2009 school year (November test)

# Cautions: N-size



- **Accountability (AYP) calculations use 40 as the minimum cell size.**
  - **Implication:** Use caution when evaluating data for small groups!
  - Results based on small numbers of students may be useful for identifying individual students meeting certain criteria, but **SHOULD NOT** be generalized to larger groups (e.g., classroom, school, district, or state).

# Cautions About Making Generalizations



**10 or Fewer Students:** Results should not be generalized beyond information about students in group

Arrows are white for results based on 10 or fewer students.

**11-39 Students:** Data should be interpreted with caution as group size is still below minimum for confident general analysis

Arrows are gray for results based on 11-39 students.

**40 or More Students:** Confident that results may be generalized to larger populations

Arrows are black for results based on 40 or more students.

# Cautions: Scale Scores



- Not all grade levels are expected to show equal growth due to the nature of WKCE scale scores.
  - **Implication:** Users should not try to draw conclusions comparing growth levels between grades.

# Cautions: Scale Scores



- One-year change in WKCE scale scores
  - An estimate of student academic progress, not an official DPI growth measure.
- Scale scores are equated over time and across grades, BUT...
  - occasional issues exist for a specific subject/grade/year at the floor (bottom of the minimal range) or ceiling (top of the advanced range) of the test.

# Cautions: Mobility



- The Longitudinal Data System tracks all students in Wisconsin public schools.
  - **Implication:** Unless you use demographic mobility variables or filters to identify students residing in your school/district for the period of interest, your results may be skewed by mobile students.

# Cautions: Implications of fall testing



- Student/school/district values are based solely on the WKCE, administered in November each year.
- The values represent the difference between scores from the selected year and the previous year.
- **Implication:** Growth cannot be directly attributed to a particular year or teacher.

# Cautions: Data Privacy



- MDAT data are confidential.
- MDAT records usage
  - So DPI has information about who accesses what student-level information
- Even aggregated data can lead to personally identifiable information.
  - When finished with the tool, always LOG OUT and CLOSE ALL BROWSER WINDOWS, regardless of content.

# Using MDAT: Topics to Consider



- **Local populations of interest**
  - Performing better or worse than state average?
  - What are possible explanations for differences in performance?
  - Is there evidence that strategies were more or less successful for some students or student groups?
    - ✦ What are some possible explanations?
- **Using MDAT change scores to examine evidence of school/district strategy effectiveness**
  - For strategies focused on improving the knowledge and skills as measured by WKCE during the time period between WKCE tests

# Interested in MDAT or Application Security Manager?

## STEP ONE



- You need a WAMS ID!!!
- WAMS=Web Access Management System
  - Once created, your WAMS ID may be used to log in to a variety of DPI and State of Wisconsin applications.
- DPI encourages interested users to sign up for a WAMS ID now.
- For information on WAMS, visit our [Home Page](#), or the [WAMS Home Page](#).

# Using MDAT: District Steps



- Please visit our secure home information pages for the steps that need to be taken to get access to MDAT.
- [http://wise.dpi.wi.gov/wise\\_securehomeinfo](http://wise.dpi.wi.gov/wise_securehomeinfo)

# Multi-Dimensional Analytical Tool



- For step-by-step directions to MDAT, click [here](#).
- Questions? Comments?
  - Please contact us through [DPI's Help Desk](#).