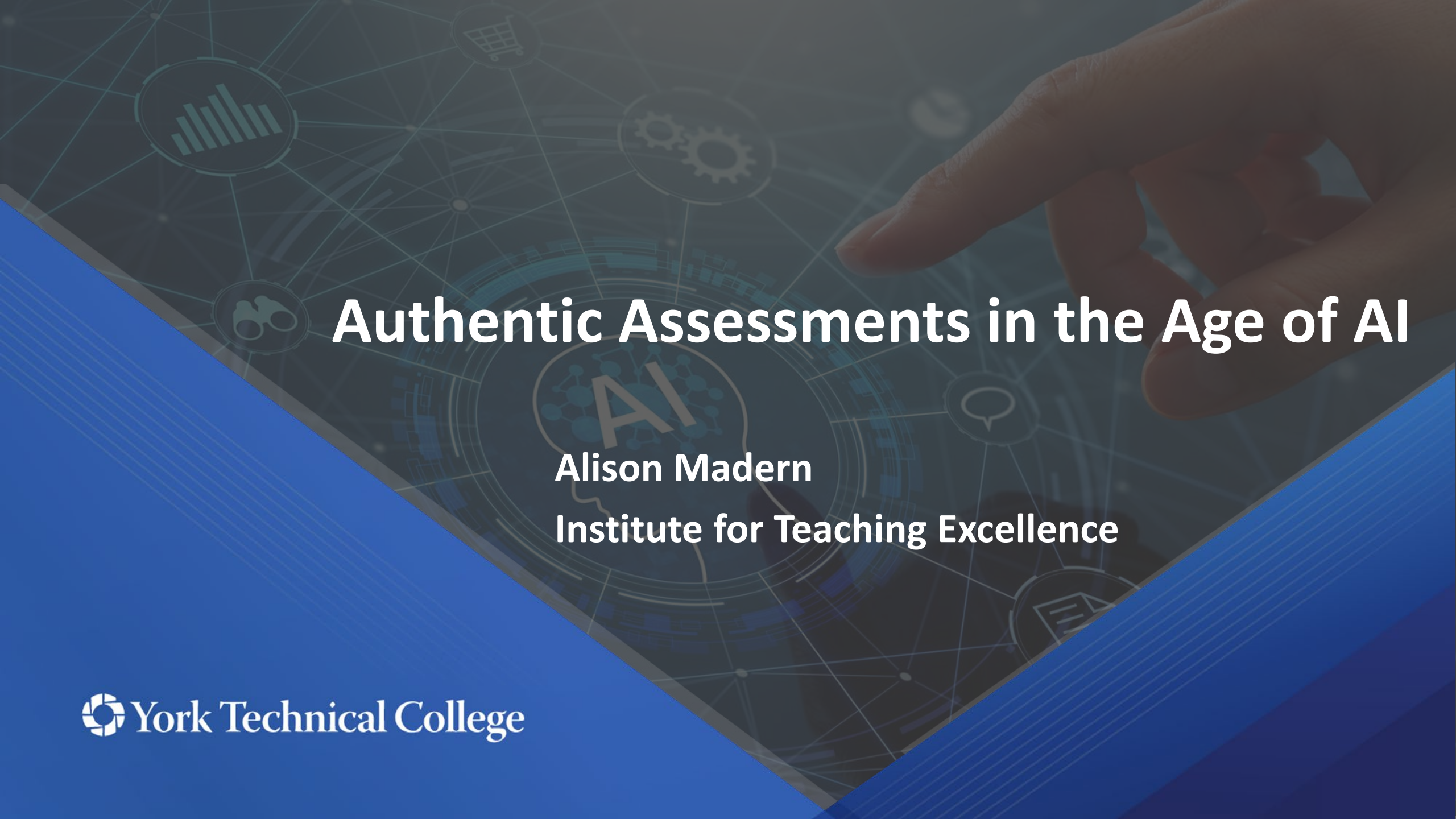

Authentic Assessments in the Age of AI

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Agenda

- What are authentic assessments?
- Strategies for discussions and assignments
- Types of authentic assessments
    - **Simulations**
    - **Portfolios**
    - **Project-Based Learning**
- Integrating AI in assessment design

What Are Authentic Assessments?

- Emphasize real-life knowledge and skills to ensure that learning is applicable and meaningful to students
- Involve complex tasks that challenge students to think critically and solve problems creatively
- Integrate higher-order thinking skills, encouraging students to analyze, evaluate, and create based on their knowledge

Features of Authentic Assessments

- Iterative process
    - Happen over time
    - Incorporate multiple revisions
- Peer review
    - Collaboration
- Self-reflection

Benefits of Authentic Assessments

- **Foster Critical Thinking (Bloom's Taxonomy)**

  Challenge students to analyze and evaluate information, enhancing their critical thinking abilities

- **Encourage Creativity**

  Promote creativity by allowing students to express their understanding through various mediums

- **Develop Problem-Solving Skills**

  Students develop essential skills applicable beyond the classroom

Strategies for Discussions

- Have students respond with a video
- Ask students to respond to content unique to your course (lecture content, visual media)
- Have students include examples directly from your course material in their responses
- Ex: Design an infographic to illustrate understanding and have students respond to classmates

Strategies for Assignments

- Have students summarize or reflect on a class activity
- Relate assignments to local context
- Emphasize process over product
    - Ask students to show the stages of their work or submit in phases
    - Submit an outline, explanation of their approach
- Ask students to generate content with AI, then research and fact-check

Strategies for Assignments

- Have students submit highlighted screenshots from sources
- Require direct quotes from lectures
- Provide very detailed instructions
  - Make connections across modules
  - Incorporate discussions from class

Sample Assignment

- Use an AI tool to generate a 300-word summary of the causes of World War I. Then fact-check the summary using at least two scholarly sources. Highlight any errors or omissions in the AI-generated text and submit a corrected version.
- Submit the AI-generated text.
- Submit PDF or screenshot of your sources with key passages highlighted.
- Include a brief reflection on what you learned from the process.

Simulations

- Case studies
    - Realistic scenarios where students analyze a situation
- Mock interviews
    - Communication skills
    - Career preparation
- Role-play
    - Interpersonal skills
    - Encourages creativity

Project-Based Learning

- Complex, multi-layered projects that build over time
- Must be well-structured to guide students through their projects
- Include opportunities for collaboration fosters teamwork and communication among students
- Incorporate reflection and feedback allows students to assess their learning process

Ideas for Project-Based Learning

- Design a mobile mechanical system that uses a clean energy source.
- Analyze data on student behaviors and academic outcomes to determine which factors most significantly influence academic performance.
- Conduct interviews and develop a report on a local social issue, such as housing insecurity or education inequality.
- Create and run a health education campaign for a specific population.
- Develop and pitch a comprehensive campaign for a startup or campus department.
- Collaborate on a literary magazine or podcast analyzing modern interpretations of classic works.

Portfolios

- Portfolios allow students to showcase their progress over time
- Enhance critical thinking, self-assessment, and communication skills
- Can be a valuable tool for job applications, or internships
- Increase motivation and engagement
- Can be a culminating project in a course

Strategies for Portfolios

- Define required components
- Include reflection prompts
- Use a digital platform
- Set checkpoints
- Provide a rubric
- Encourage connections across different assignments

Encouraging AI

- Have students weave AI into their work
- Include peer review and revisions
- Transparent use of AI

Ex: Have students use AI for topic generation.

Using AI for Assessments

- CoPilot
- ChatGPT
- Gemini
- Claude

- “Create a PBL project for a college level (course) that meets the learning outcome (learning outcome statement).”

Example

- Create a project-based learning assignment for a college level probability and statistics course that meets the learning outcome “Model and analyze real-world applications with a regression function to create a linear model, calculate the correlation coefficient, and make a prediction.”

Project Title: Analyzing Real-World Data Using Linear Regression

Project Overview:
Students will select a real-world dataset, create a linear regression model to analyze relationships between variables, calculate the correlation coefficient, and use their model to make predictions. The project is designed to scaffold learning over several weeks, culminating in a written report and presentation.

Learning Outcome Addressed:
Model and analyze real-world applications with a regression function to create a linear model, calculate the correlation coefficient, and make a prediction.

Project Steps and Timeline:

Week 1 – Topic and Dataset Selection

- Students choose a dataset from a real-world context (examples: sports statistics, environmental measurements, economic indicators, health data, social media analytics).
- Submit a short proposal describing the dataset, the independent and dependent variables, and the context of the study.

Week 2 – Data Exploration and Cleaning

- Students explore the dataset using descriptive statistics and visualizations.
- Identify outliers, missing values, or data inconsistencies.
- Submit a short summary of data exploration, including histograms, scatterplots, and summary statistics.

Week 3 – Creating a Linear Regression Model

- Students construct a linear regression model with one independent variable (simple linear regression).
- Calculate the regression equation (slope and intercept) manually or using statistical software.
- Determine the correlation coefficient (r) and interpret its meaning in context.

Week 4 – Model Validation and Predictions

- Students evaluate the model's fit using residuals, R^2, or other diagnostic measures.
- Make predictions for new or hypothetical data points using their model.
- Write a brief reflection on the model's limitations and assumptions.

Week 5 – Peer Review

- Students exchange reports with classmates for peer feedback.
- Focus on clarity of explanations, correct interpretation of regression coefficients, and appropriateness of predictions.

Week 6 – Final Report and Presentation

- Submit a final report including:
    1. Introduction to the problem and dataset
    2. Data exploration and cleaning summary
    3. Regression model with equation and correlation coefficient
    4. Predictions and interpretation
    5. Discussion of model assumptions, limitations, and insights
- Present findings in a 5–10 minute presentation or recorded video for the class.

Deliverables:

- Dataset proposal (Week 1)
- Data exploration summary (Week 2)
- Linear regression model and analysis (Week 3–4)
- Peer review feedback (Week 5)
- Final report and presentation (Week 6)

Assessment Criteria:

- **Accuracy of Analysis:** Correct regression calculation, correlation coefficient, and predictions
- **Data Handling:** Clear data exploration, cleaning, and visualization
- **Interpretation and Insight:** Ability to explain relationships, make predictions, and discuss limitations
- **Communication:** Clarity of written report and oral presentation
- **Engagement:** Evidence of iterative work and incorporation of peer feedback

Final Thoughts

- Encourage students to engage with real-world problems
- Use strategies that incorporate reflection, peer review, multiple revisions
- Create an environment where students are engaged and see the relevance of their work

Questions?