



doceo AI

/ 'D O . K E . O : /

we make sense of data

# TRANSFORMING DATA INTO ACTIONABLE KNOWLEDGE



DATA



INFORMATION



KNOWLEDGE

**ACTIONABLE  
KNOWLEDGE**

**DOCEO AI** leverage existing data created and gathered in classrooms, schools, and districts to **predict** challenges, and **recommend** strategies to support student learning and staff support.

**DOCEO** is a Latin word that means to **inform, enlighten, demonstrate** and **make bright**. **DOCEO AI** provides a platform based on intuitive data visualization platform and **CLARIO** natural-language chat interactions, by streamlining operations and offering intuitive access to vast **current and historical longitudinal data**.

**DOCEO AI's** platform enhances **efficiency** and amplifies **productivity**, our focus on data analytics is taken to the next level by using **AI** to offer **deeper insights** empowering organizations and assist in **data-informed decision-making** across different sectors.

# Multiple Sources of Data



## STUDENTS

Academic performance

Outcomes

Attendance

Behavior

Support Documents and Plans



## DISTRICT OPERATIONS

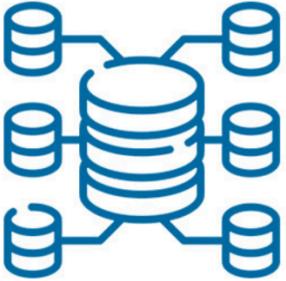
Finances

Human resources

Professional learning

Technology

Transportation



## EXTERNAL TRUSTED

External Assessment

Education policies

Planning standards

Curriculum

Scio-Economic Information

## YOUR DATA, YOUR CONTROL

We ensure that **only trusted and validated data** is used, and all sources **are under your control**.

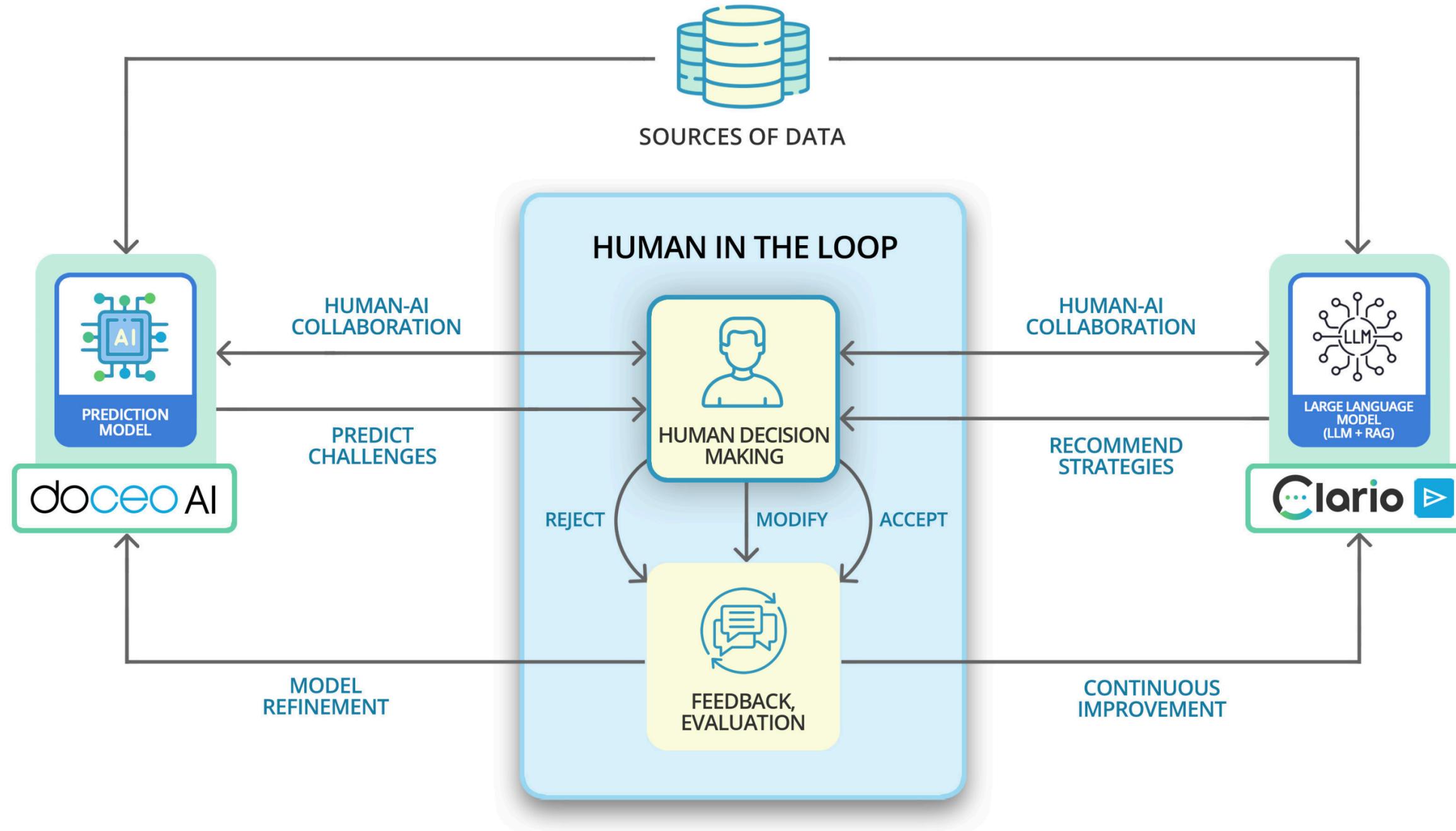
# DOCEO AI System Design

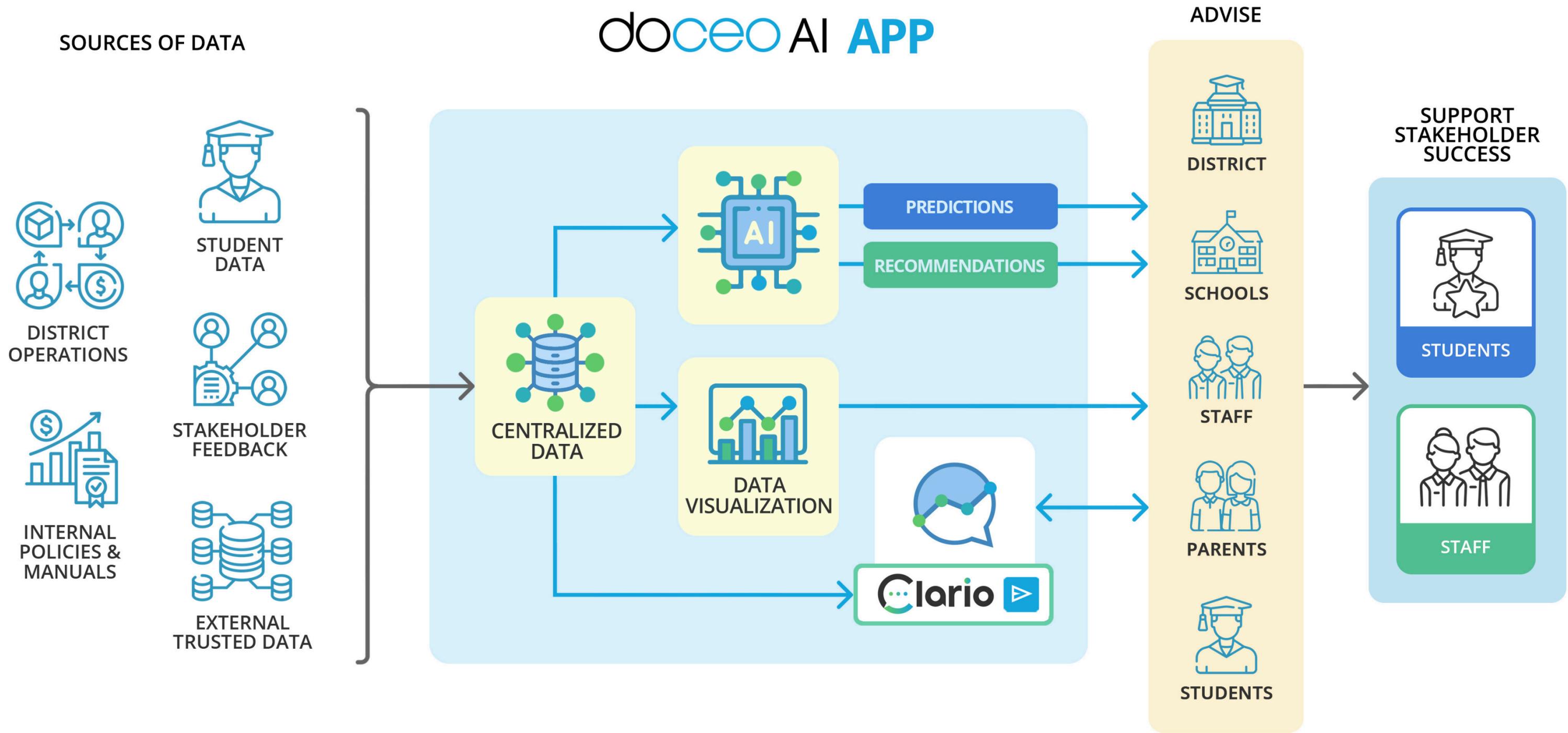
**DOCEO AI** brings together information from across the education ecosystem and transforms it into meaningful insight.

Using **advanced predictive models** and **CLARIO's** natural language interface powered by **LLM with RAG**, stakeholders can access reliable answers, identify emerging challenges, receive **proactive intervention strategies** that support student and staff, and streamline school operations.

**Human in the Loop** keeps users as the **decision makers**. The AI provides predictions and recommends strategies, while humans guide the final decisions, validate insights, and offer feedback. This **continuous improvement loop** ensures the system remains transparent, trustworthy, and adaptive.

# SYSTEM DESIGN



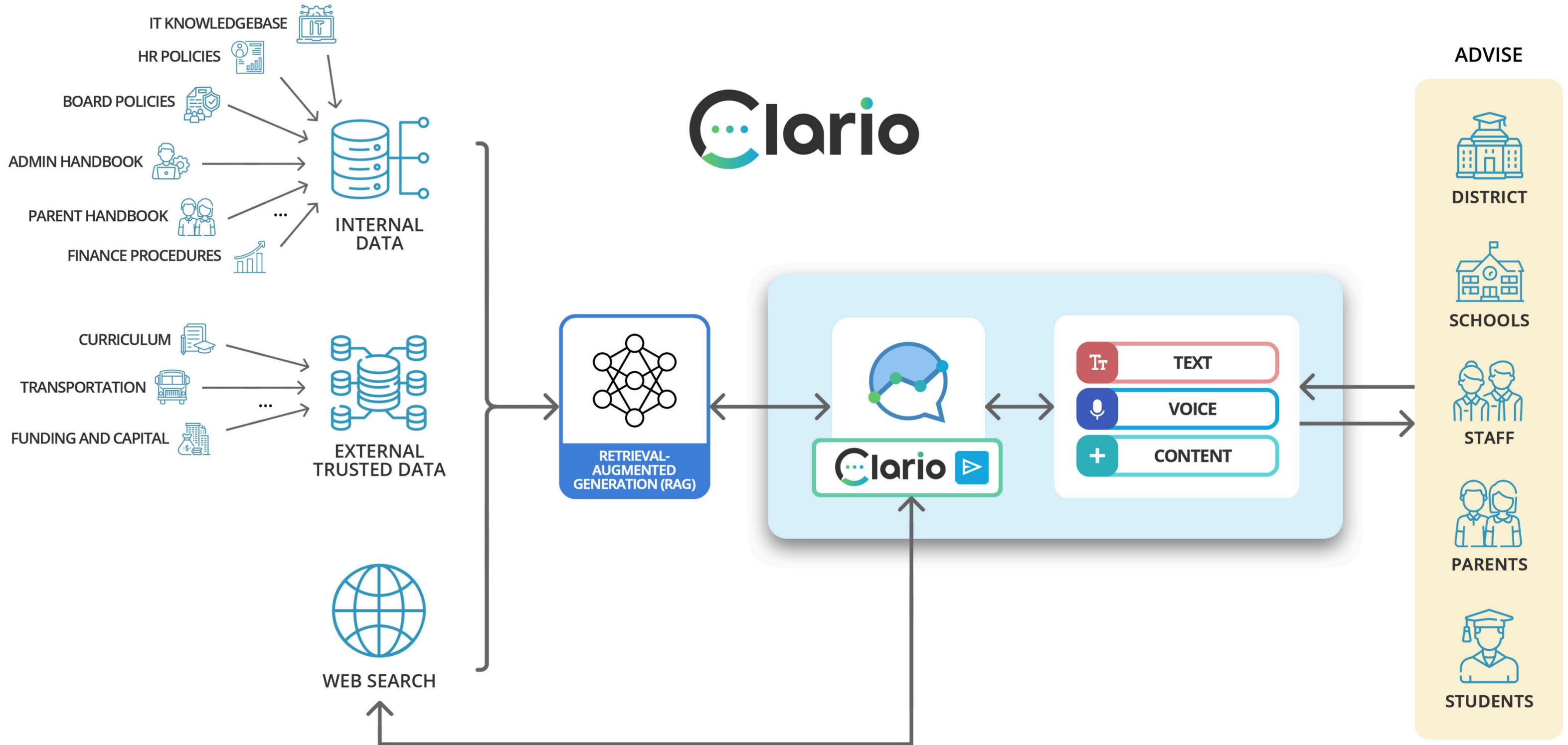


# Clarío Chat Application

**Feeling lost in a sea of information?** Between HR policies, lesson plans, district documents, parent handbooks, and curriculum sources, it's easy to get overwhelmed.

That's why **DOCEO AI** created **CLARIO**, a secure, role-aware, AI-powered chat application that helps educators, parents, and staff instantly access trusted internal and external documents and policies through simple, natural conversations.

**CLARIO** makes finding the right information fast, safe, and effortless. That's how CLARIO redefines how schools connect with information



# Clarío Chat Application Solution

We are developing a **chat-based application** designed to **streamline** access to **critical documentation and resources**, that can be used across any industry. Also, helping educators and staff quickly access curriculum guides, handbooks, and policies through a secure, AI-powered chat.

## Reducing administrative burden and improving access to critical information

### **Multi-Modal Interaction**

Interactions through text or voice dictation for seamless document access

### **Comprehensive Knowledge Base**

Access to curriculum, handbooks, HR policies, financial procedures and external trusted sources

### **Web Search**

Access relevant information from external web sites through search

### **Role-Based Access Control**

Users only view content authorized for their specific roles and access levels

- Education and school related information on the [alberta.ca](https://www.alberta.ca) website
- Curriculum information in K-12 (*Alberta Education*)
- Parents' Guides (*Alberta Education*)
- Administrative Educational Policies (*Alberta Teachers' Association*)
- Superintendent Leadership Quality Standard (*Alberta Education*)
- Funding Manual for School Authorities (*Alberta Education*)
- Minister of Education Review and Approval (*Alberta Education*)
- And many other sources...

# Key School District Stakeholders



## Leadership

Administrators seeking policy guidance and compliance information



## Parents

Caregivers seeking information about curriculum and student support



## Staff

Support personnel navigating operational procedures and protocols



## Students

Learners accessing educational resources and graduation requirements

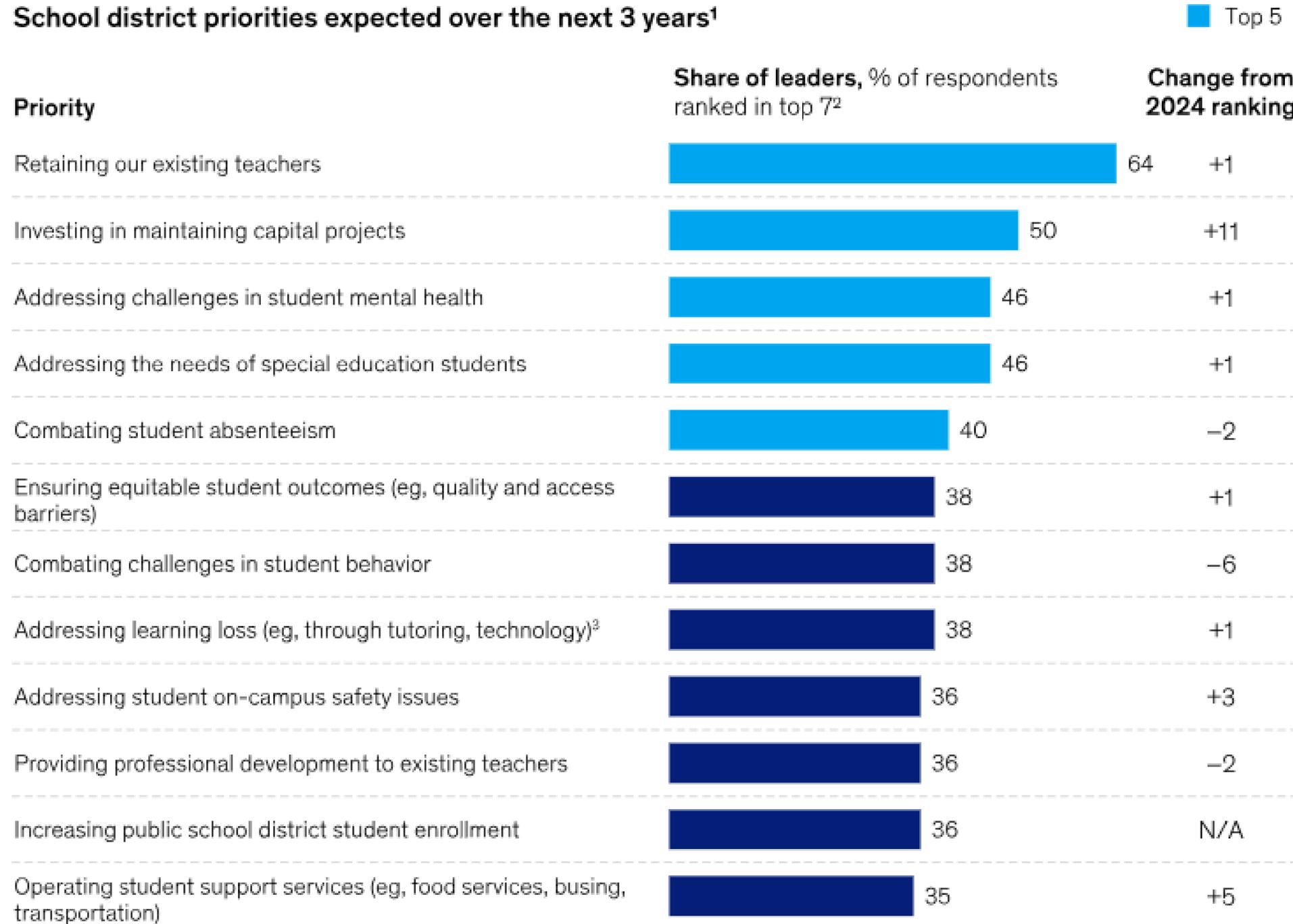


## Teachers

Educators accessing curriculum resources and professional guidelines

## District priorities have shifted over the past year.

School district priorities expected over the next 3 years<sup>1</sup>



# K-12 Education Innovation Snapshot 2024: Bridging Technology Gaps

# EXAMPLE USE CASES

# Example Use Cases

1. Learning Support
2. Well-being Challenges Detection & Mitigation
3. Disengagement Detection & Mitigation
4. Inclusive Education Support Recommendations
5. Creating Support Plans
6. Long-term Education and Career Planning
7. Data Analytics and Visualization

# District Operation Example Use Cases

1. Efficiency in Teacher & District Staff Processes
2. Data-Driven Planning & Resource Allocation
3. Supporting Teacher Retention
4. Staff Interaction with District Documents
5. Web Search for Research & Resource Compilation

# SCREENS OF DOCEO AI SOFTWARE

- Home
- Review
- Dashboard
- Students Alerts
- Student List
- Support Plan
  - Behavior
  - Learning
  - Inclusive Education
  - Psychoeducational Assessment

# We make sense of data

Interact with DOCEO AI's platform through an intuitive chat interface, designed around accuracy, usability, customizability, and security.

**AI... Automate, Augment, and Assist**



Let's chat... ▶

- Home
- Review
- Dashboard
- Notifications and Alerts
- Student List
- Support Plan

[Back to Student List](#)

# Ethan Cole

Birthdate:	11/18/20
Parents/Guardians:	John Cole, Grace Co
Phone:	(403) 555-12
School:	Maple Valley School
ASN #:	123456789
Email:	cole@example.com

### Recent Alerts

- Behavioral issues for Ethan Cole** High ⌚ Just now  
System detected behavioral signals requiring review.  
[Open report](#)
- Emily Parker was late three days in a row without parent excuse.** Medium  
⌚ Today, 9:20 AM
- Grade 3A attendance dropped ~5% this month (n = 22).** Low ⌚ Yesterday
- 2 students in Grade 3A completed math work >50% after two missed submissions.** Low ⌚ 2 days ago

[Mark all as read](#) [View all](#)

Principal:	Tom Anderson
Homeroom Teacher:	Susan Bennett

- Home
- Review
- Dashboard
- Notifications and Alerts
- Student List
- Support Plan

[Back to Student List](#)

# Ethan Cole

Birthdate: 11/18/20

Parents/Guardians: John Cole, Grace Cole

Phone: (403) 555-1234

School: Maple Valley School

ASN #: 123456789

Email: cole@example.com

## Suggested Insights

- Attendance improved after weekly 'game-like' challenges. This week  
Study groups saw +12% grades; homework assistance only saw +5%.
- Reading goals: phonological awareness resource Last week  
Article on improving phonological awareness for Grade 1 students.  
[Western University article](#)

Mark all as read

[View all](#)

Grade: 3

SPED Code: 42

Principal: Tom Anderson

Homeroom Teacher: Susan Bennett



Let's chat...



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Search

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Support

**TQS Clarification**

Grading

Teaching

History

Course Parameters

Hi, I'm thinking about starting my Master of Education. If I complete it, can I move up on the salary grid? What's the process for getting my certification upgraded?



### Teacher Certification Upgrades – Overview

In Alberta, salary grid placement is determined by your [Teacher Qualification Service \(TQS\)](#) evaluation.

#### Steps to Upgrade Your TQS Certification

##### 1. Choose a Recognized Program

- Ensure your diploma or degree is from a TQS-approved institution and meets the TQS evaluation criteria for course relevance and academic rigor.

##### 2. Apply to TQS

- After completing your program, submit an Application for Evaluation to the Teacher Qualification Service.
- You'll need:
  - Official transcripts (sent directly from the institution)
  - Proof of Alberta teaching certificate

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**TQS Clarification**

Grading

Teaching

History

Course Parameters

- You'll need:
- Official transcripts (sent directly from the institution)
- Proof of Alberta teaching certificate
- TQS application fee

### 3. Wait for Evaluation

- TQS typically processes evaluations in 6–8 weeks.
- Once approved, your school district will receive confirmation of your updated grid placement.

### 4. Grid Movement

- Your salary will be adjusted retroactively to the date your completed coursework qualifies you for the new category, provided all documents are received within the timelines.

#### Supporting Resources

- [TQS Guide to Salary Categories \(PDF\)](#)
- [TQS Application Portal](#)

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**Light and Optics**

Course Parameters

Hi! Can you give me a lesson plan to help me teach Light and optics for grade 8?



## Grade 8 Science: Light and Optical Systems Lesson Plan

### Lesson Title:

Understanding Light and Optical Systems

### Duration:

2-3 class periods (45-60 minutes each)

### Lesson Objectives

By the end of the lesson, students will:

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**Light and Optics**

Course Parameters

- Investigate the nature of light and its behavior (reflection, refraction, transmission, and absorption) [1].
- Explore the role of optical devices (microscopes, telescopes, lenses) in science and daily life [1].
- Compare the human eye to cameras and other organisms' eyes [2].
- Demonstrate the formation of real images using lenses and predict the effects of lens position changes [1].
- Investigate emerging technologies related to light and vision (e.g., laser surgery, digital imaging) [2].

## Materials Needed

- Flashlights
- Mirrors
- Lenses (concave and convex)
- Transparent, translucent, and opaque materials
- Microscopes and telescopes (if available)
- Protractors
- Light sensors (optional)
- Digital devices for research (e.g., tablets or computers)

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**Light and Optics**

Course Parameters



## Lesson Outline

### 1. Introduction (15 minutes)

- **Engage:** Begin with a discussion on the importance of light in our lives. Ask students:
  - What are some natural and artificial sources of light? [\[2\]](#)
  - How do we use optical devices like microscopes and telescopes in science? [\[1\]](#)
- **Demonstration:** Show how light travels in straight lines using a flashlight and a piece of cardboard with a hole.

### 2. Activity 1: Investigating Light Behavior (30 minutes)

- **Objective:** Investigate how light interacts with different materials.
- **Procedure:**
  1. Divide students into small groups.
  2. Provide materials (mirrors, lenses, transparent/translucent/opaque objects).
  3. Have students:

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Light and Optics

Course Parameters

3. Have students:

- Measure and predict angles of reflection using mirrors [1].
- Observe and record how light refracts through different materials (e.g., water, oil) [1].
- Test which materials transmit, absorb, or reflect light [1].
- **Discussion:** Groups share their findings and discuss the differences in optical properties of materials.

### 3. Activity 2: Exploring Optical Devices (30 minutes)

- **Objective:** Understand how lenses and optical devices form images.
- **Procedure:**
  1. Demonstrate the formation of real images using a double convex lens. Show how changing the lens position affects image size and location [1].
  2. Allow students to use microscopes and telescopes to observe objects. Discuss how these devices enhance vision and contribute to scientific discovery [1].
  3. Compare the human eye to a camera. Highlight similarities in focusing mechanisms and automatic functions [2].

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**Light and Optics**

Course Parameters

#### 4. Activity 3: Emerging Technologies (30 minutes)

- **Objective:** Investigate new technologies related to light and vision.
- **Procedure:**
  1. Assign students to research topics such as laser eye surgery, night vision technologies, or digital imaging [\[2\]](#).
  2. Have students present their findings in a short presentation or poster format.
  3. Discuss the impact of these technologies on daily life and science.

#### 5. Conclusion and Reflection (15 minutes)

- **Review:** Recap key concepts:
  - How light behaves (reflection, refraction, transmission, absorption) [\[1\]](#).
  - The role of optical devices in science and technology [\[1\]](#).
  - The similarities and differences between the human eye and cameras [\[2\]](#).
- **Reflection:** Ask students:
  - What was the most surprising thing you learned about light?

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**Light and Optics**

Course Parameters

- What was the most surprising thing you learned about light?
- How do you think optical technologies will evolve in the future?

## Assessment

- Participation in group activities and discussions.
- Accuracy and completeness of recorded observations and measurements.
- Quality of research and presentations on emerging technologies.
- A short quiz on key concepts (e.g., behavior of light, function of lenses, comparison of eyes and cameras).

## Safety Considerations

- Ensure students handle mirrors and lenses carefully to avoid breakage.
- If using lasers, follow safety guidelines to prevent light from entering anyone's eyes [\[1\]](#).

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**Light and Optics**

Course Parameters

- Ensure students handle mirrors and lenses carefully to avoid breakage.
- If using lasers, follow safety guidelines to prevent light from entering anyone's eyes [\[1\]](#).

## Extensions

- Design an experiment to test the effect of dissolved materials on light refraction (e.g., saltwater vs. pure water) [\[1\]](#).
- Investigate how light pollution affects the environment and propose solutions [\[1\]](#).

This lesson plan aligns with the curriculum outcomes for Grade 8 Science: Light and Optical Systems, emphasizing scientific inquiry, collaboration, and the application of knowledge to real-world technologies.

### References:

- [\[1\]](#) NUMERATION
- [\[2\]](#) KE Science 8-9 Program of Studies

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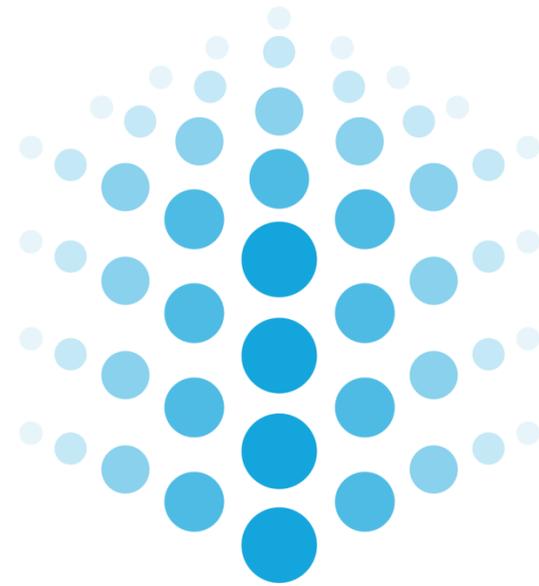




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**SOLUTIONS**



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