



# Empowering Teaching and Learning

## Using AI

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Thought-leader, researcher, published author & entrepreneur in advanced educational methods & technologies

Applying artificial intelligence & gamification to education & training throughout his career

Former director of the Center for Advanced Research in Technology for Education at the University of Southern California

Speaks many languages, has coffee farm in Hawaii, mixes spirits (legally), sings opera

Computer science (AI in education): Yale  
Linguistics: Princeton



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## Alelo Webinar Series on the Future of AI in Education and Training

To provide insight into the promise and potential of this new technology, Alelo offers a webinar series on the Future of AI in Education. We will look at the impact of AI on the experience of learners and teachers, the education and training industry, and the global economy. Seminar speakers will include Alelo experts as well as other thought leaders in the global community of artificial intelligence in education.

[READ MORE](#)



EXCLUSIVE REPORT TECH

# Can AI fix education? We asked Bill Gates

*How personalized learning is changing schools*

By Casey Newton | @CaseyNewton | Apr 25, 2016, 1:07pm EDT

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# Intelligent machines will replace teachers within 10 years, leading public school headteacher predicts

Human tutors will be sidelined in near future as AI takes central role in education, suggests Sir Anthony Sheldon of Wellington College

John von Radowitz | Monday 11 September 2017 08:30 | 11 comments



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## Measuring Teacher Effectiveness

### Teachers Matter

Multiple Choices

Tests and the Teacher

Value-Added Modeling

Student Growth Percentiles

Leadership Matters

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# Teachers Matter: Understanding Teachers' Impact on Student Achievement

Many people emphasize the importance of good teachers, and many local, state, and federal policies are designed to promote teacher quality. Research using student scores on standardized tests confirms the common perception that some teachers are more effective than others and also reveals that being taught by an effective teacher has important consequences for student achievement.



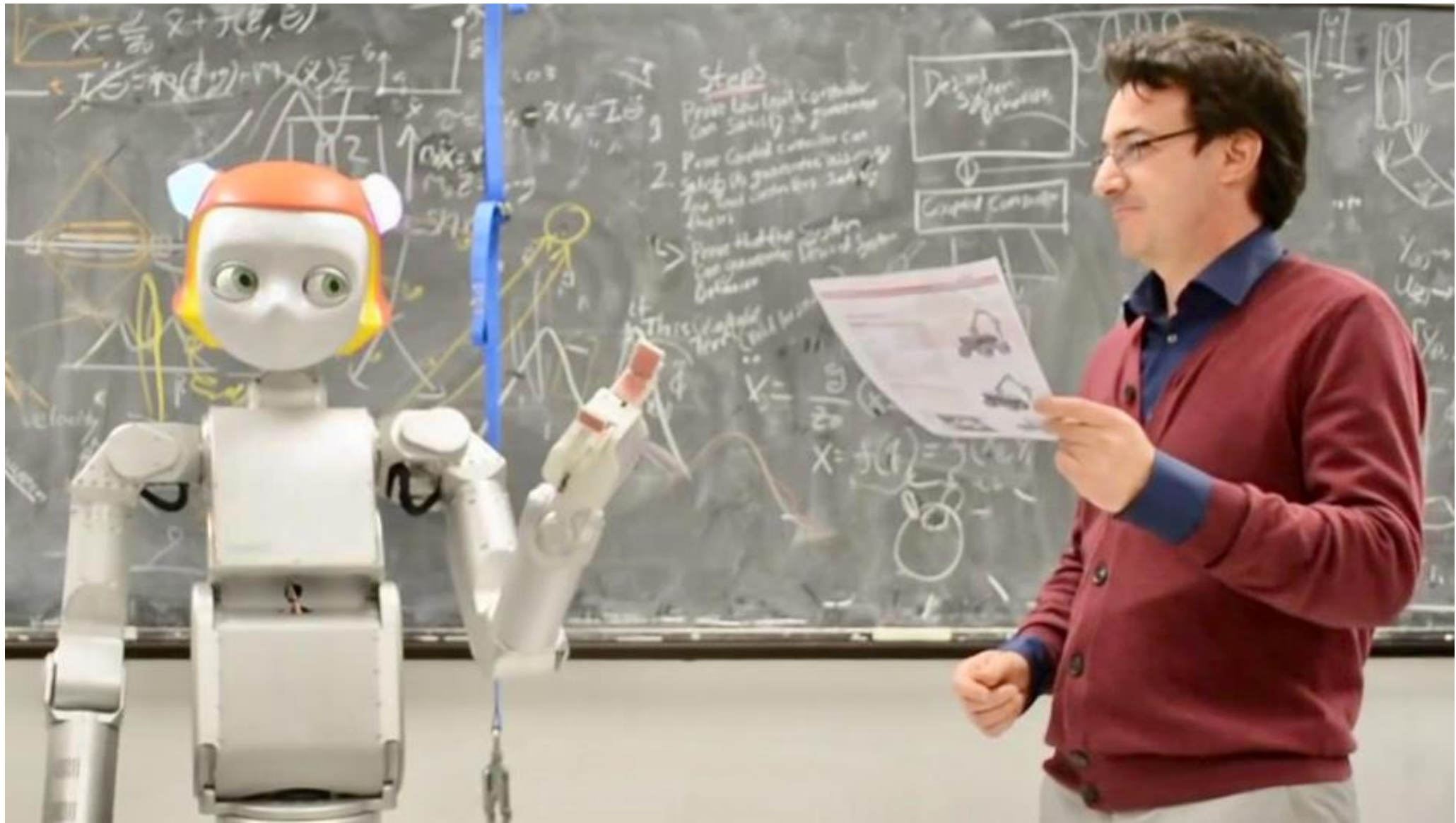
**Teachers Matter:  
Understanding  
Teachers' Impact on  
Student Achievement**



## Teachers matter more to student achievement than any other aspect of schooling.

Many factors contribute to a student's academic performance, including individual characteristics and family and neighborhood experiences. But research suggests that, among school-related factors, teachers matter most. When it comes to student performance on reading and math tests, a teacher is estimated to have two to three times the impact of any other school factor, including services, facilities, and even leadership.

# So how can AI help?



- Giving machines the ability to seem like they have human intelligence

**NOT A TEACHER REPLACEMENT!**

**AI is an Aide Intelligente!**

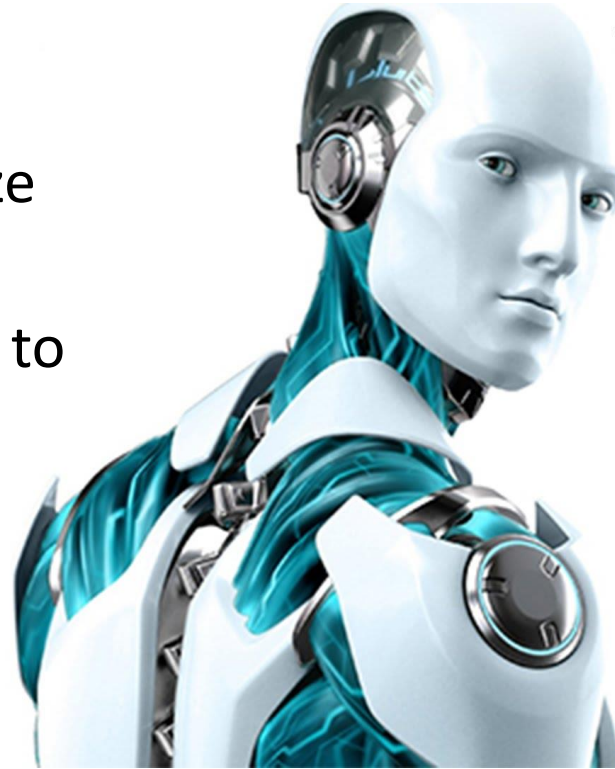


# WHAT IS A.I.?



## Capabilities of AI systems:

- Understanding: Collect, analyze and interpret data
- Decision-making: Take actions to achieve goals
- Learning



# WHAT IS A.I.?

# Example: Learning to speak a foreign language

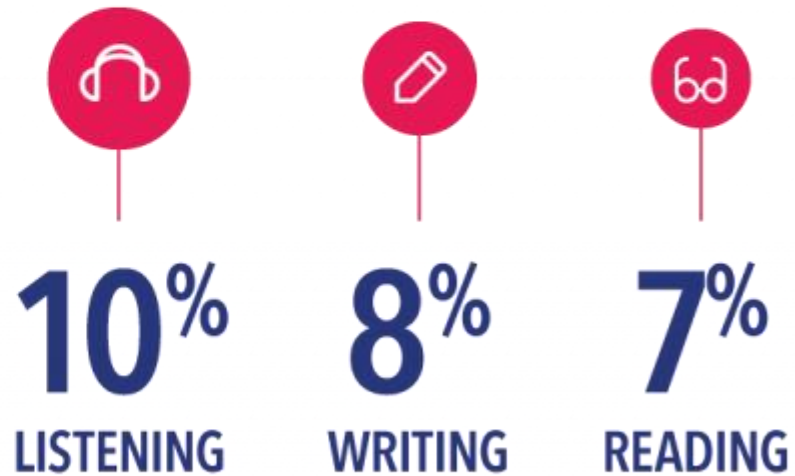
Nunan (1991) wrote, "success is measured in terms of the ability to carry out a conversation in the (target) language."





# SKILLS RANK

(IN ORDER OF IMPORTANCE)

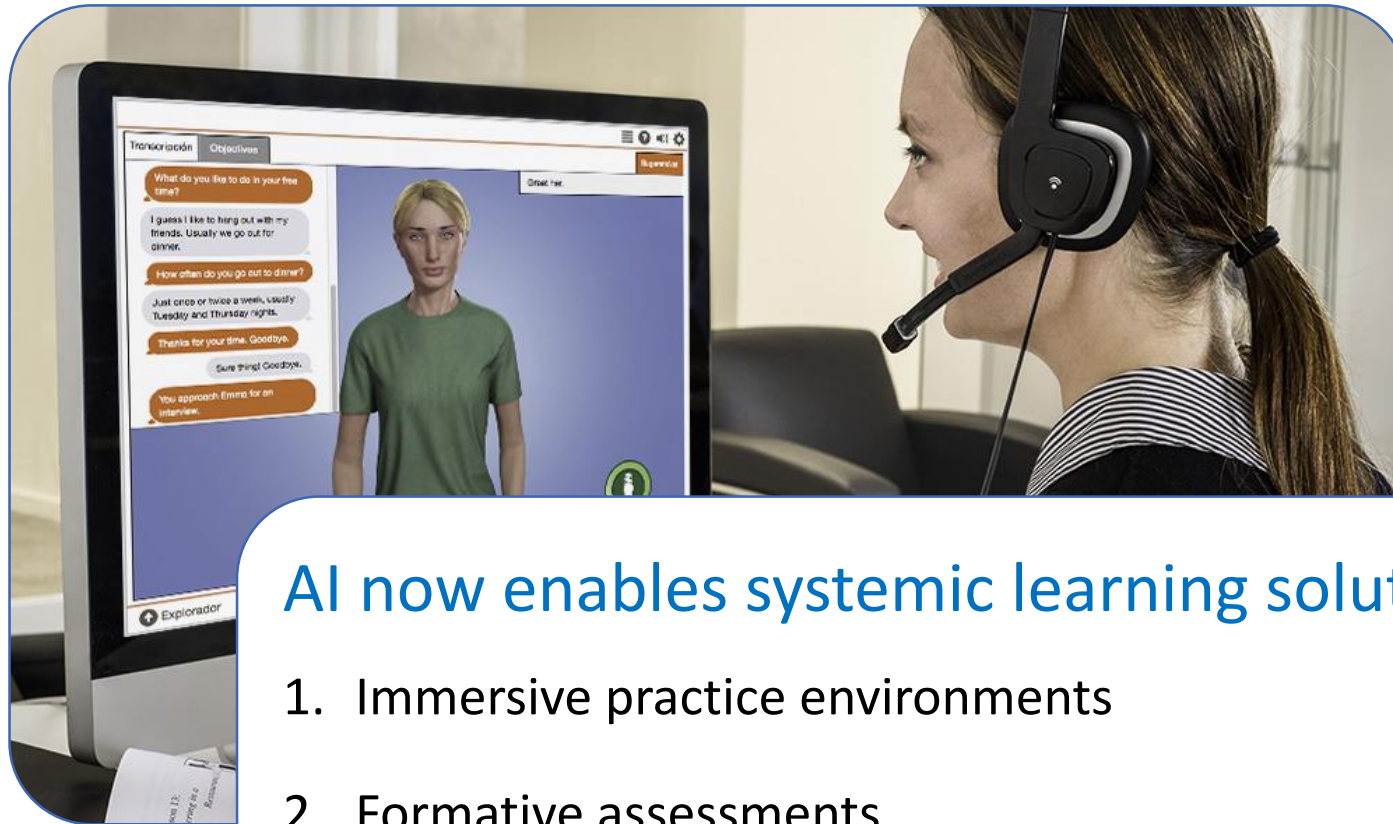


Global Teaching Speaking Survey, Cambridge University Press

# It's hard to teach speaking

- It's hard to set up authentic situations in class
- Teachers must participate, monitor, and provide feedback
- Students can't practice when the teacher is not available





## AI now enables systemic learning solutions

1. Immersive practice environments
2. Formative assessments
3. Feedback
4. Personalized learning
5. Performance analytics for learners, teachers, & administrators





# Example: Buy a Train Ticket

LAUREATE EDUCATION INC.

Transcript Objectives Directions

Good morning.

Hi. Welcome to the Metropolitan train station. Where are you traveling to?

Could I go to New York?

Great! I can help you plan your trip to New York. What day would you like to depart?

May 1st.

I have a couple of trains that day. Does the train leaving at 2:00 PM work for you?

Tell her you don't want the ticket.

Ask how long the trip is.

Ask if there is another train.

Tell her you want the ticket.

Ask her to repeat what she said.

Ask when the train will arrive.



Trip to NYC

- o May 1 - May 7
- o \$300 Budget

HAMLET  
New York City  
May 1, 8PM  
Row V, Seat 139



↑ Explorer

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## Transcripción

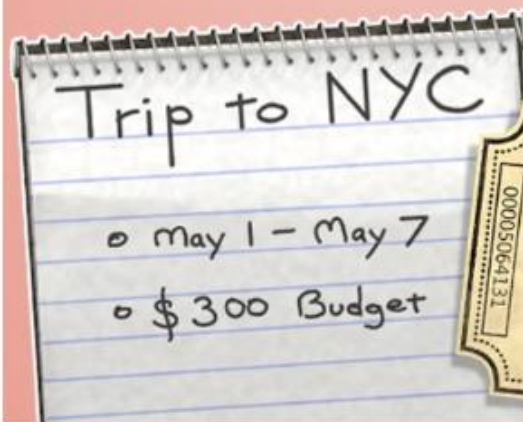
## Objetivos

## Sugerencias

You're taking a trip to New York from May 1st to May 7th. You have to be at a Broadway show at 8:00PM in New York on May 1st. You have \$300 to spend on a train ticket to New York and a return ticket home. You can have up to two bags. You'll need to:

- Say where you want to travel.
- Say the dates you want to depart and return.
- Ask questions about the departure and arrival times of trains.
- Stay within your budget.

Greet her.



Transcripción

Objetivos

Sugerencias

Good morning.

Hi. Welcome to the Metropolitan train station. Where are you traveling to?

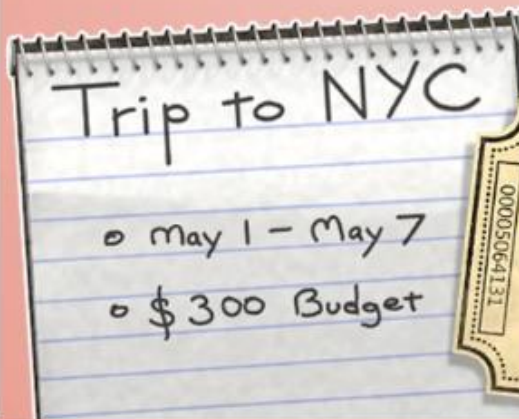
Ask her to repeat what she said.

Tell her where you would like to go.

Can I get a ticket to New York, please?

Are there trains to New York City?

I would like to go to NYC.



Transcript

Objectives

Directions

Good morning.

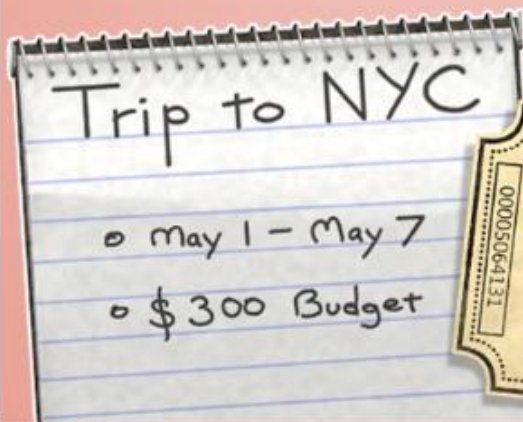
Hi. Welcome to the Metropolitan train station. Where are you traveling to?

I'm going to New York.

Great! I can help you plan your trip to New York. What day would you like to depart?

Ask her to repeat what she said.

Tell her what day you'd like to leave.



Transcript

Objectives

Directions

Good morning.

Hi. Welcome to the Metropolitan train station. Where are you traveling to?

I'm going to New York.

Great! I can help you plan your trip to New York. What day would you like to depart?

I would like to leave on 1st met.

I have a couple of trains that day. Does the train leaving at 2:00 PM work for you?

Tell her you want the ticket.

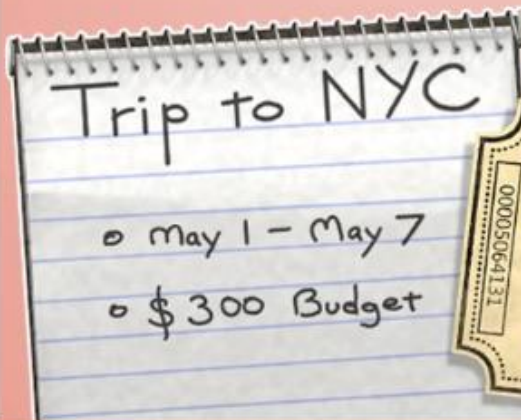
Ask if there is another train.

Tell her you don't want the ticket.

Ask how long the trip is.

Ask her to repeat what she said.

Ask when the train will arrive.



Transcript

Objectives

Directions

I'm going to New York.

Great! I can help you plan your trip to New York. What day would you like to depart?

I would like to leave on 1st met.

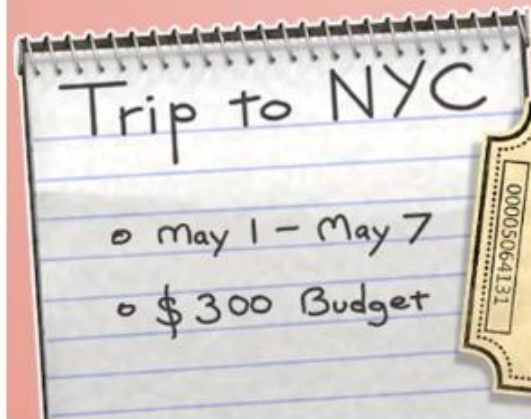
I have a couple of trains that day. Does the train leaving at 2:00 PM work for you?

Okay.

Okay. A one way ticket in first class is \$175 and a coach ticket is \$100. Would you like a first class or coach ticket?

Ask her to repeat what she said.

Tell her what class of ticket you want.



Transcript

Objectives

Directions

Once you start conversing you will appear here.

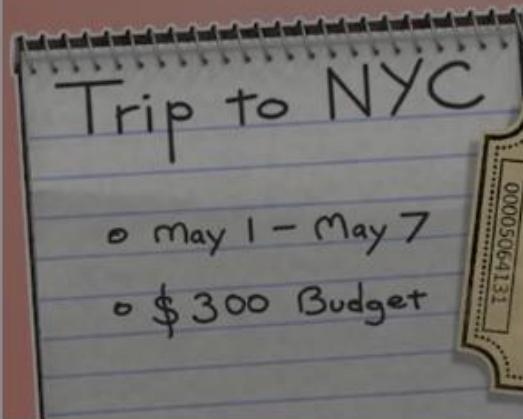
### Feedback



Unfortunately, you weren't able to say everything you needed to say in the conversation. Please review the information in the Feedback below and in the Practice Exercises that follow. That will help you to perform better on your next try. When you are ready, play again.

Ask questions about the departure and arrival times of trains. ❌

⏪ You didn't ask questions about the departure and arrival times of trains. Remember, to ask what time a train will leave and arrive. ⏩



## Language Instruction

An adverbial phrase is a group of two or more words that act as an adverb. Adverbial phrases of time describe when or for how long something happens. Here are some common adverbial phrases of time.

  	On May first	  	This Saturday / week / month / year
  	On Monday	  	Last Saturday / week / month / year
  	At eight o'clock	  	Next Saturday / week / month / year
  	Right now	  	All day / week / month / year
  	In five minutes / hours / days / weeks / months / years	  	For five minutes / hours / days / weeks / months / years
  	Before / After the movie	  	From May first to May seventh

Back

Forward

Close

## Practice Exercise



Ask Emma what time the train will arrive.

*Click the Record button to respond.*



✓ **Outstanding!**  
You asked what time the train will arrive!  
I heard: what time will the train arrive

Back

Forward

Close



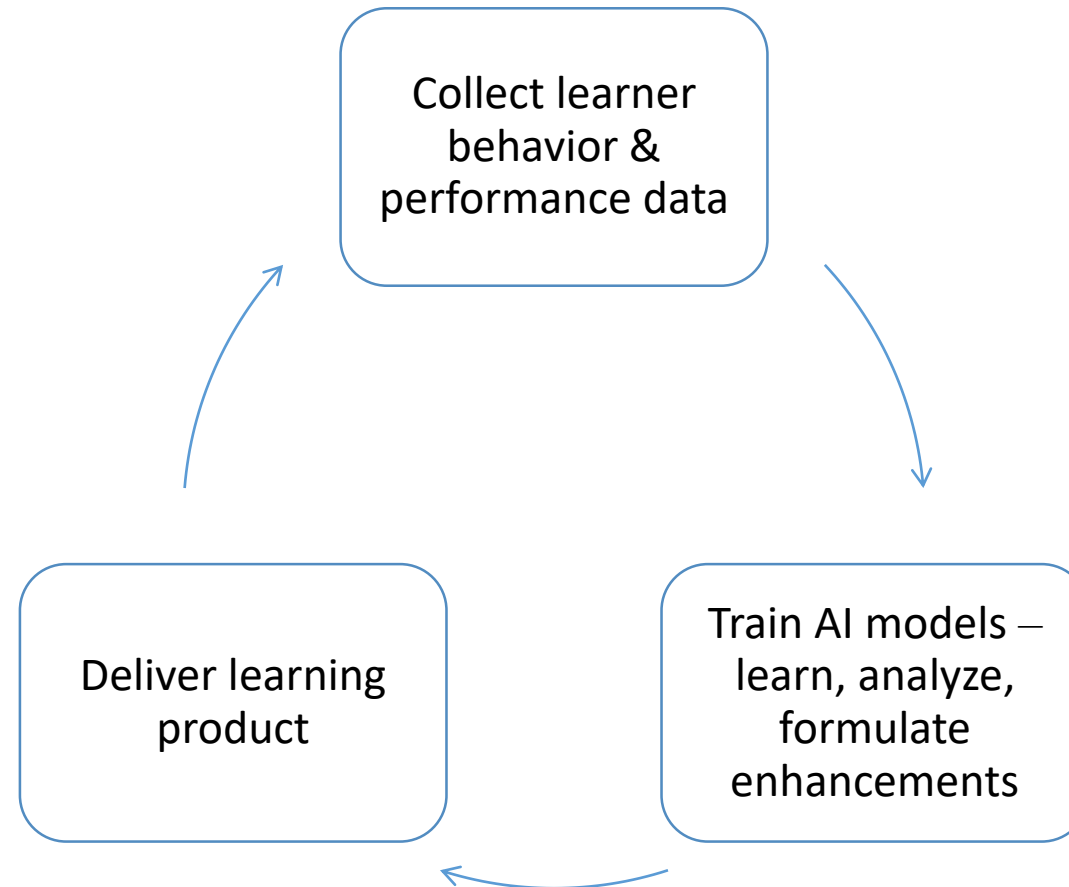
Transcript

Objectives

Directions



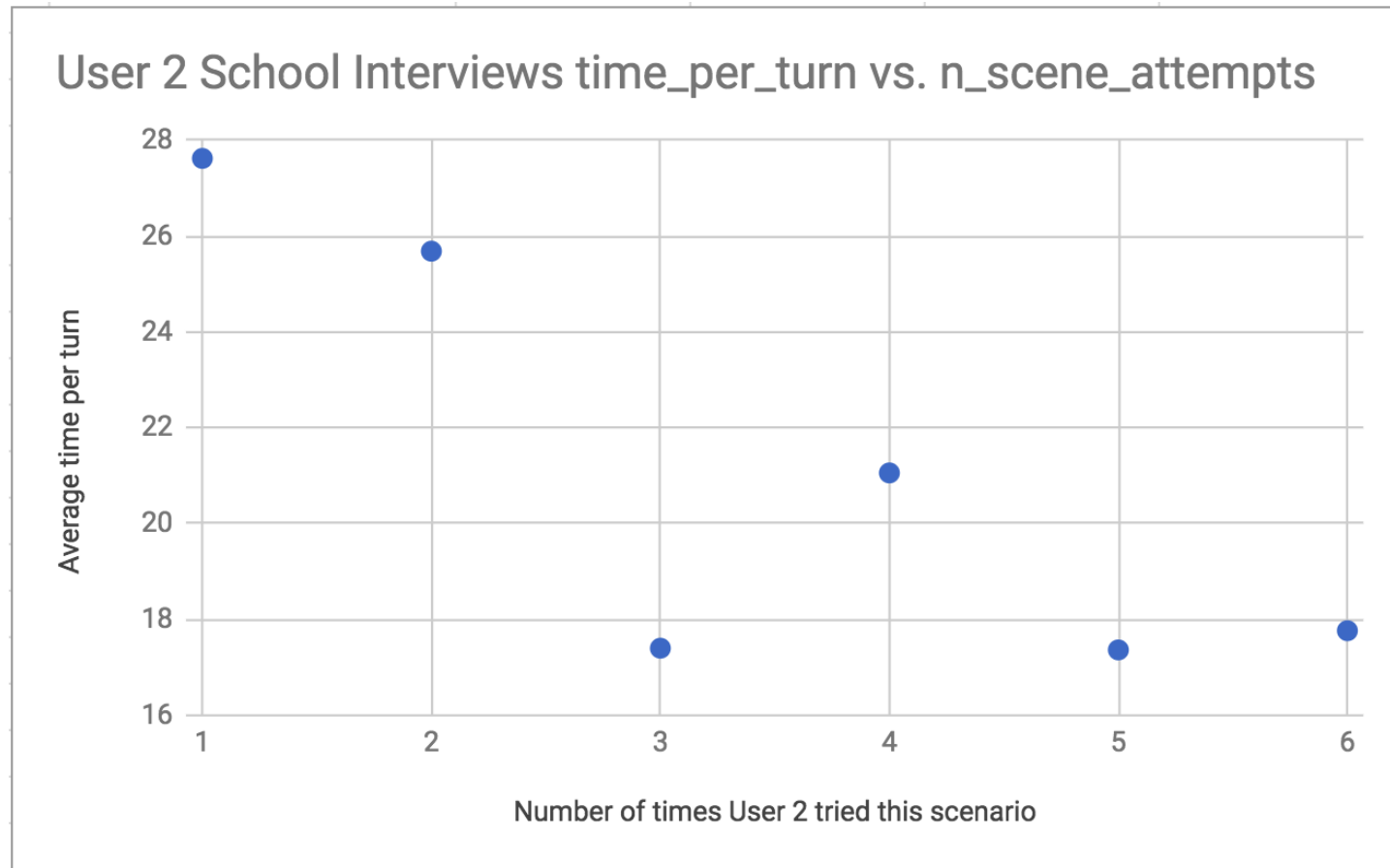
# Data-driven development



# Next: Data-driven teaching

userId	institution	country	simulation	completions	full	partial	firstCompletion	lastCompletion
5ac27aa26f86451070c6cd60	University of Novi Sad	Serbia	Party Supplies with Emma	1	0	1	4/2/18 20:38	4/2/18 20:38
			Helping Owen Plan a Party	1	1	0	4/2/18 20:46	4/2/18 20:46
			School Newspaper Interviews	1	1	0	4/2/18 21:28	4/2/18 21:28
			Class Interview with Lily	1	1	0	4/2/18 21:36	4/2/18 21:36
			Helping Owen with a Recipe	1	1	0	4/2/18 21:44	4/2/18 21:44
			Giving Lily Directions	1	1	0	4/2/18 21:50	4/2/18 21:50
			Describing a Soccer Match	2	2	0	4/2/18 21:53	4/2/18 21:56
			Owen's Summer Vacation	1	1	0	4/2/18 22:00	4/2/18 22:00
			Lily's Weekend	1	1	0	4/2/18 22:02	4/2/18 22:02
			A Road Trip with Owen	1	1	0	4/2/18 22:04	4/2/18 22:04
59ce67779a7a46118cdb035	University of Novi Sad	Serbia	Party Supplies with Emma	6	1	5	11/10/17 22:45	4/4/18 17:20
			Helping Owen Plan a Party	6	2	4	11/14/17 21:34	4/4/18 17:23
			School Newspaper Interviews	3	2	1	11/14/17 21:38	4/4/18 17:31
			Class Interview with Lily	4	3	1	11/14/17 21:41	3/20/18 21:24
			Helping Owen with a Recipe	1	1	0	11/14/17 22:25	11/14/17 22:25
			Giving Lily Directions	2	2	0	11/14/17 22:28	11/15/17 0:50
			Describing a Soccer Match	1	1	0	11/14/17 22:32	11/14/17 22:32
			Owen's Summer Vacation	1	0	1	11/14/17 22:37	11/14/17 22:37
			Lily's Weekend	2	1	1	11/14/17 22:41	11/15/17 1:01
			A Road Trip with Owen	2	2	0	11/14/17 22:59	11/15/17 0:54

# Next: Data-driven teaching



## Measuring Teacher Effectiveness

### Teachers Matter

Multiple Choices

Tests and the Teacher

Value-Added Modeling

Student Growth Percentiles

Leadership Matters

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**Teachers Matter:  
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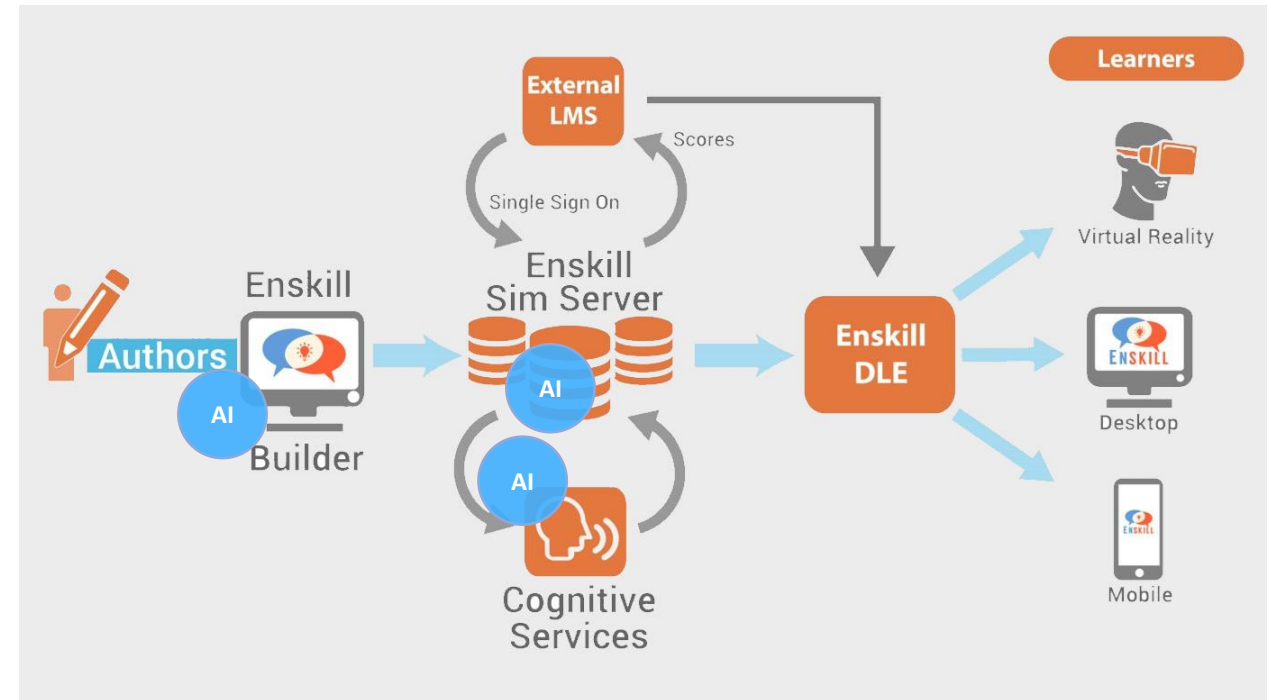


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# Towards an AI-driven learning ecosystem

- AI embedded everywhere: data-driven course authoring, course delivery, data collection
  - Integrate AI-driven learning into digital textbooks and other online learning products
  - Leverage advances in AI tools, for learning purposes
  - Support a global community of publishers & content developers using AI-driven tools



# Application to a range of soft skills



Language and culture



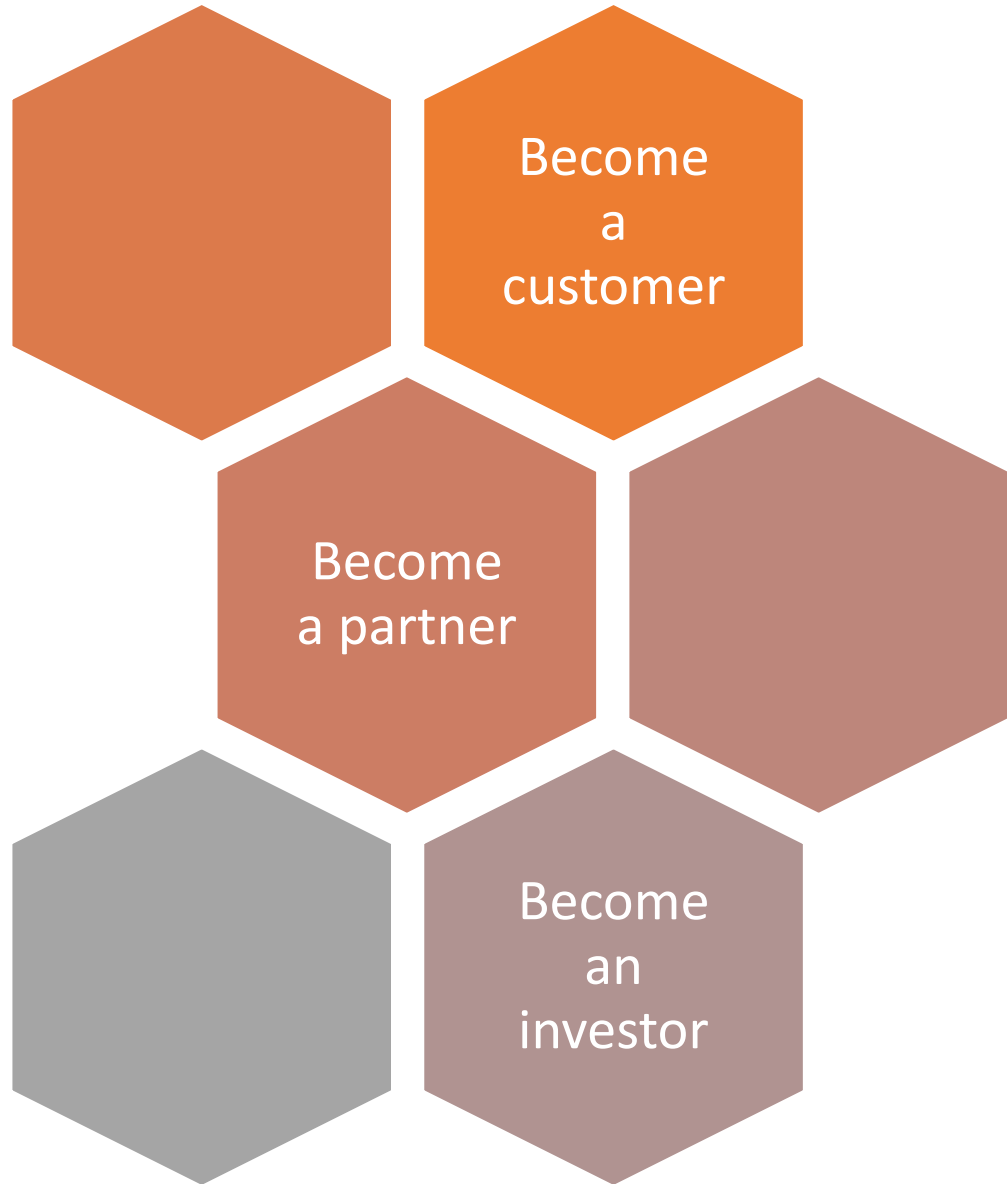
Healthcare & sales communication skills



Workplace communication skills



Teacher training



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