



# Teachers and Technology

## Be Aware or Beware?

Koren Nitzan | Tsybulsky Dina | Levin Ilya

# The Digital Revolution

**We live in the digital revolution**  
(Floridi, 2011)

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**Revolutions have an impact on human identity**  
(Levin & Tsybulsky, 2017)

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**The emergence of ICT blurred the boundaries  
between the physical and digital worlds**  
(Morales & Andrade, 2015)

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# Background



Information and communication  
technologies emerged



Reshape in human  
behavior

(Floridi, 2011)

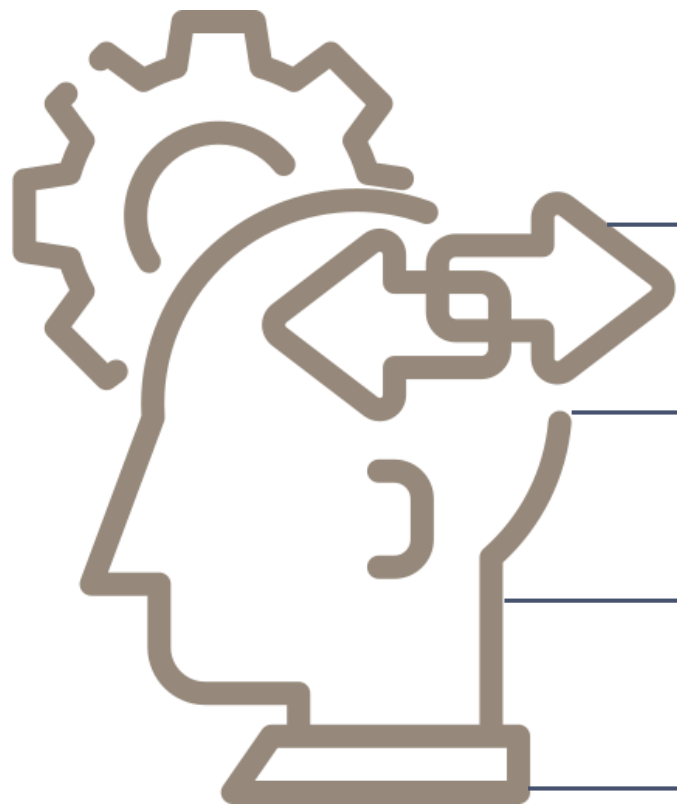


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# Changes in human behavior



Blurring of Boundaries in Physical and Digital Worlds

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Load of Information

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Changes in Communication

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Hyper-connectivity

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# Major Developments



Science



Consumption



Communication

# But What About Education?



Education



# Education

## Education remains close to its irrelevant traditional form



Teachers experiences and skill sets are used by their students to prepare them for the real- world

(Tsybulsky & Muchnik-Rozanov, 2019)

Teachers' identities and worldviews are the key to understand how to reach the desired transformation in education

(Tondeur, Braak, Ertmer & Ottenbreit-Leftwich, 2016)



# The four components of Education



Teacher



Student



Learning environment



Curriculum



# SAMR Model (Puentedura, 2006)

**S**ubstitution

**A**ugmentation

**M**odification

**R**edefinition

Digitization in education will be achieved through the implementation of the fourth and highest level of the SAMR model - **Redefinition**





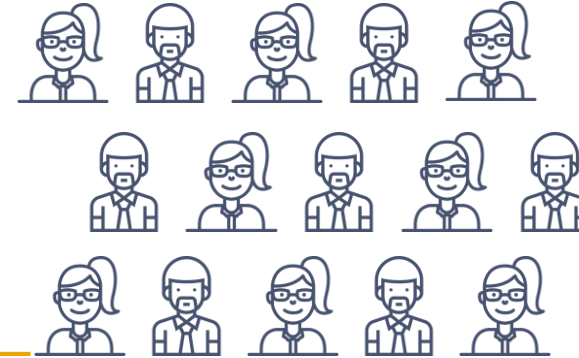
# Research Objectives

1. Understand teachers' technology perception
2. Identify the teachers perceptions on the four components of education (Teacher, student, environment and curriculum)
3. Identify the teachers propositions on how to reconcile the differences



# Method

Interview 15 science teachers in semi-structured interviews



Analyze the teachers' reflections



Match the four education components with their SAMR level - As perceived by the teachers

Substitution

Augmentation

Modification

Redefinition



# Results

Schicht/ Datum	Sorte	FLG
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	Stoffverhältnis DIP / Etik.	
	V - Sieb	
	V - Poperoller	
	Arbeitsbreite	
	Stoffauflauf	
	Auslaufverhältnis	
	Druck	
	PD Innendruck	
	Druckwaage / Spülung	
	Lippenöffnung	
	Vorderwand	
	Pumpendrehzahl	
	Schüttelbock Freq.	
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	Scimmer / Entwässerung	
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	Flachsauger	
	SSW	
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	PU Preßzone	
	Partie / Linie	

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# Two Major Groups of Teachers

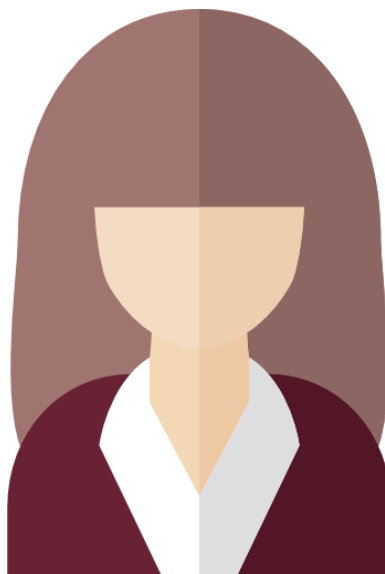
No better option  
but to fit in

Personal

I have to use technology

Role

It's an obligation as part  
of my role as teacher to  
adjust to technology



A will to fit in

Personal

I need technology

Role

I want to use technology  
to challenge my  
students



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# Teachers Perceptions about Education components

## Student

Students progress in a different pace

## Teacher

Teacher must use visual content to teach

## Environment

There is a projector and speakers in every classroom

## Curriculum

There is not enough time, we need to prepare students for tests

## Student

Student experience outside is more valuable than what they learn in the school

## Teacher

Teachers don't know how to get the students' attention anymore

## Environment

The environment is not the problem, humans are

## Curriculum

More content, less purpose



# Teachers propositions on how to reconcile the differences

## Student

Technology can be a distraction

## Teacher

Accept digital technology

## Environment

Add equipment to classrooms- computers and WIFI

## Curriculum

Use the available content that can be found online

## Student

Listen to students

## Teacher

Facilitate rather than transfer knowledge

## Environment

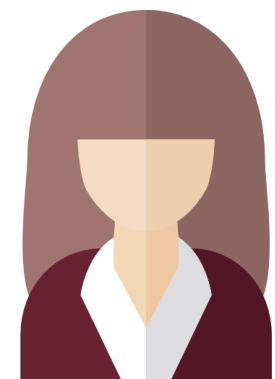
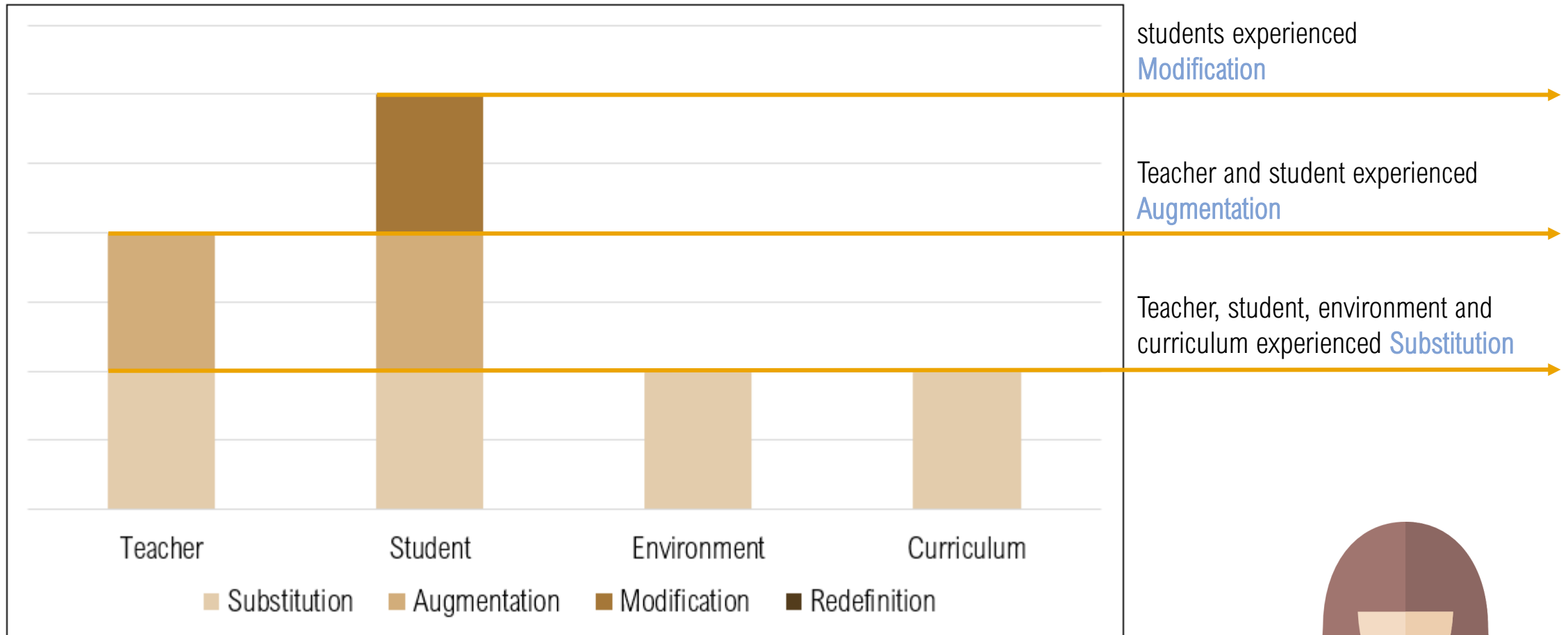
Regulate the use of technology in the school

## Curriculum

Change the curriculum



# Teachers reflections on Education Components



# Conclusions

- 💡 Teachers think that technology is important for processes of learning
- 💡 Teachers put their effort in dealing with “Digital Age” problems
- 💡 Teachers concerned of transferring knowledge rather than acquiring new skills
- 💡 Teachers think that they and their students do not perceive technology in the same way





# Research Implications

- 💡 Education should be seen as a lifelong process
- 💡 Education should happen inside and outside of the classroom
- 💡 Teachers role should be redesigned



# Thank you!

## Contact Me

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Scan for References



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# Questions?



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