

## The effect of playing with tablet games compared with real objects on word learning by toddlers

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## Tablet games and language learning



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## Tablet use by toddlers




- 77% of the families owns at least 1 tablet
- 70-80% of the 3-year olds plays tablet games
- On average 20 minutes per day

(Nikken, Pijpers, & Koenen, 2014)




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## Vocabulary and development




1. Language comprehension
2. Technical reading skills
3. Reading comprehension
4. School success


(Muter et al., 2004; Stahl & Nagy, 2006; Morgan, Farkas, Hillemeier, Scheffner Hammer and Maczug 2015)




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## Can children learn language from playing tablet games?






Tablet use deprives children of input



Engagement and attention provide platform for learning

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## Games and vocabulary learning



Heitink (2013): retention better with online games + teacher instruction than with a pen-and-paper game + teacher instruction

Schuurs (2011): PC game playing + teacher instruction more effective than storybook reading

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## Hypothesis



- Toddlers learn as many new words during a playful interactive vocabulary training with tablet games, as they do with real objects.
- Toddlers prefer tablet games.



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## Study design



		Inclusion and randomisation (n=22)	
		Tablet game first group (n=9)	Real objects first group (n=13)
Week 1		Pretest T0 'supermarket'	Pretest T0 'supermarket'
		12 min. intervention with tablet games	12 min. intervention with real objects
		Posttest T1 'supermarket'	Posttest T1 'supermarket'
Week 2		Posttest T2 'supermarket'	Posttest T2 'supermarket'
		Pretest T0 'airport'	Pretest T0 'airport'
		12 min. intervention with real objects	12 min. intervention with tablet games
Week 3		Posttest T1 'airport'	Posttest T1 'airport'
		Posttest T2 'airport'	Posttest T2 'airport'
		Children's preference for material	Children's preference for material

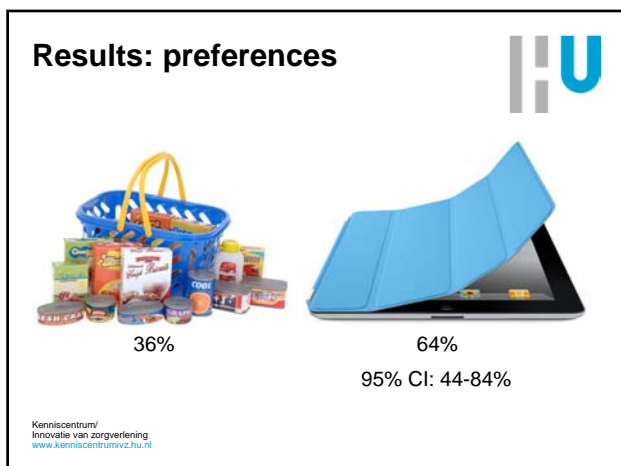
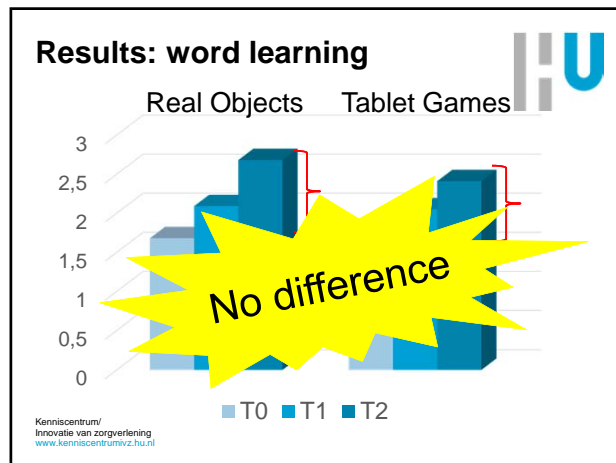
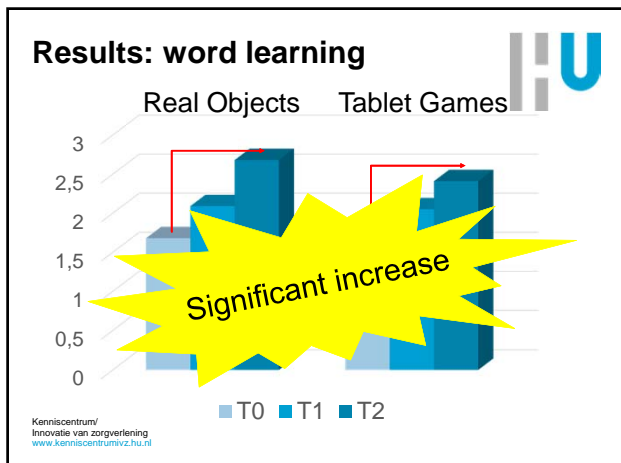
## Intervention



- 12 minutes playful interaction
- Dr. Panda games and real objects
- intervention techniques
- 5 target words per theme
- student used each word 7+ times

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### Discussion

- Toddlers learn new words during playful interaction with both materials
- Significance only reached after one week
- No control words used -> natural growth?
- Students also tested children
- No clear preference for any type of material

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### Conclusion

**Toddlers learn new words during playful interaction with tablet games!**

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