De impact van de lerarenopleiding op ICT-competenties van studentleraren

JoTondeur (VUB), Koen Aesaert & Johan van Braak (UGent)

Inhoud

Context en theorie

ICT-competenties studentleraren
Strategieën lerarenopleiding (SQD)
Probleemstelling

Methode
Survey
Multilevel analyse

Resultaten
Impact studentkenmerken
Impact SQD

Discussie
Implicaties
Vervolgonderzoek

Presentatie beschikbaar via #ORD2017 @jotondeur of
https://www.researchgate.net/profile/Jo_Tondeur

ICT-competenties voor (student)leraren

Competenties die leraren nodig hebben om ICT zo te integreren dat het hun onderwijs aantrekkelijker, efficiënter, effectiever of beter te organiseren maakt.
(Gebaseerd op Kennisnet, 2012)

pedagogisch-didactisch handelen

professionele ontwikkeling

werken in de schoolcontext

Professionele ontwikkeling & ICT
"With the ease of use of social networking there has been a move by teachers to self-action their professional learning opportunities online" (1)

professionele ontwikkeling

Jo Tondeur @jotondeur · 20 u
Start of the Innovative Collaborative Learning with ICT #MOOC #CLaTmooc 1) movie 2) survey 3) twitter 4) Forum 5) Activity! #edtech

🌐 Vertalen uit het Engels

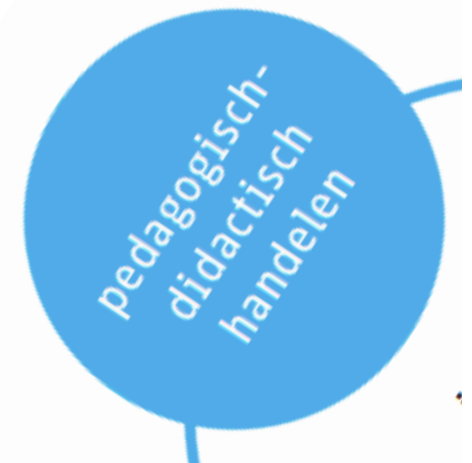💬   ⟲ 1   ♡ 5   ॥।

ICT in de schoolcontext
"ICT supports more flexible working arrangements and distribution of work for staff.

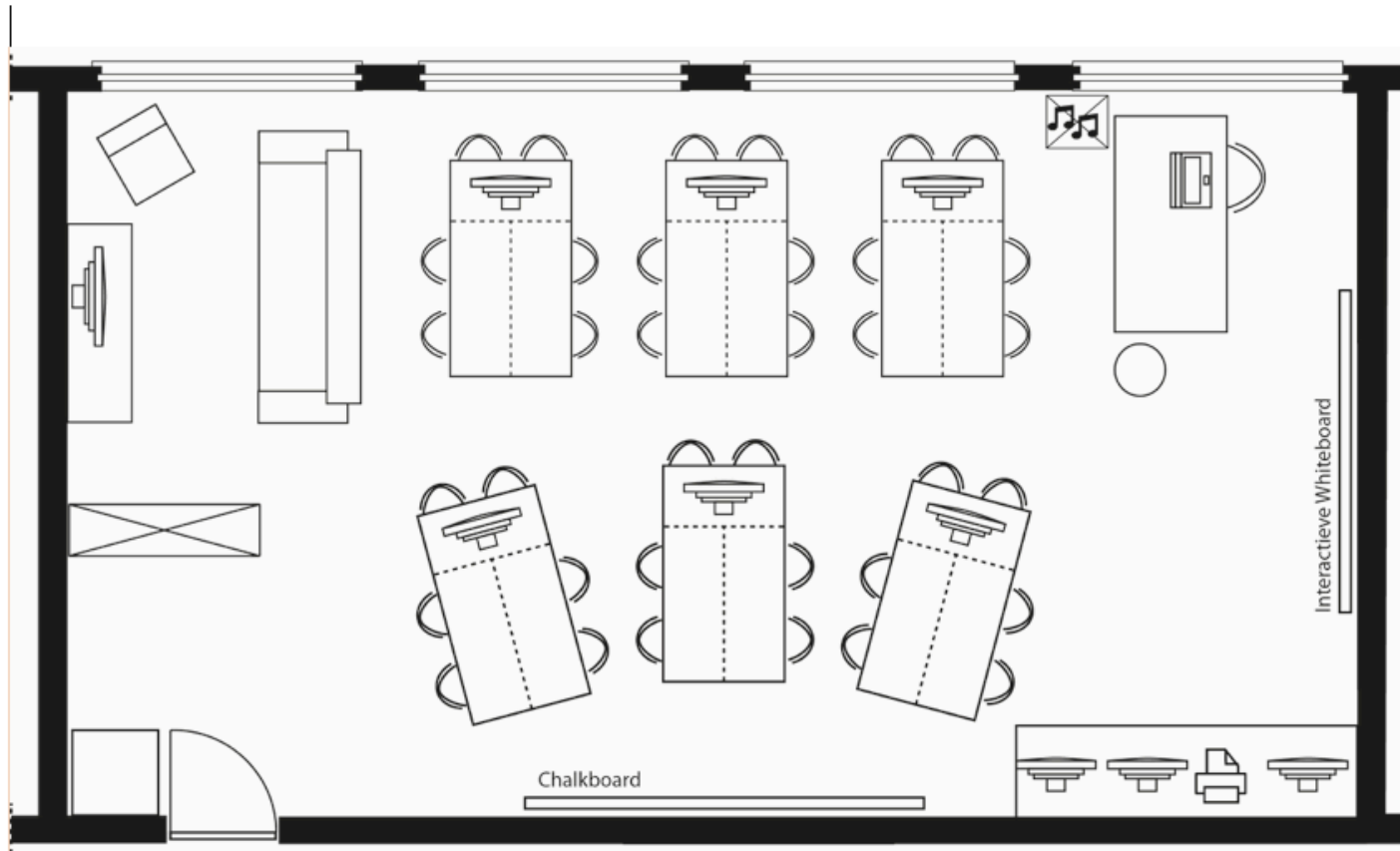*ICT also enables parents to be more engaged with their child's learning which drives improvement"* (2)

werken in de schoolcontext

ICT-competenties leerlingen bevorderen
> ICT-eindtermen (3)

Sociaal-ethische competenties

Leerprocesgerichte competenties

Voorstellen van Informatie aan anderen

Creatief vormgeven met behulp van ICT

Zelfstandig leren met behulp van ICT

(enkel S.O.) Adequaat kiezen Reflecteren en bijsturen

Oefenen met behulp van ICT

Zoeken, Verwerken en bewaren van informatie

Communiceren van informatie

Onderliggende technische instrumentele en procedurele vaardigheid

Een positieve houding – Ter ondersteuning van het leren

Veilig – verantwoord – doelmatig

pedagogisch-didactisch handelen

Competenties voor het ontwerpen van een ICT-rijke leeromgeving (4)

Chalkboard

Interactieve Whiteboard

pedagogisch-didactisch handelen

Effectieve strategieën om ICT-competenties van studentleraren te ontwikkelen

SQD-model - Synthesis of Qualitative Data (5)
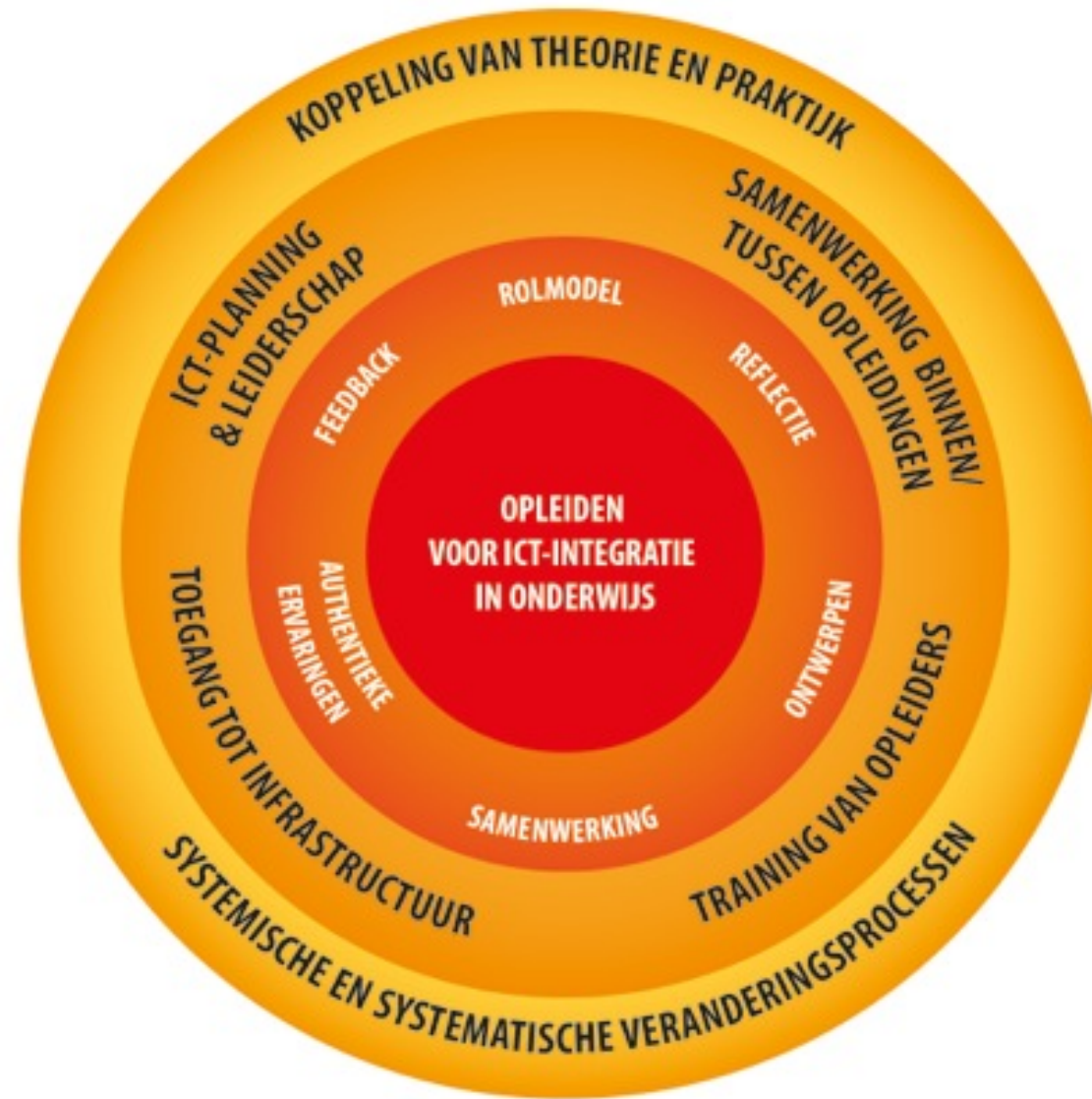
Probleemstelling

- Strategieën moeten gecombineerd aangeboden worden (6)

- Onderzoek focust veelal op de invloed van één strategie

- Amper onderzoek naar de invloed van zowel studentkenmerken als ondersteuning van de lerarenopleiding

  – Invloed van bv. "attitudes over ICT (in onderwijs)" (7)

  > ICT-profiel studenten kan gepercipieerde ondersteuning lerarenopleiding beïnvloeden en omgekeerd (8)

Onderzoeksvragen
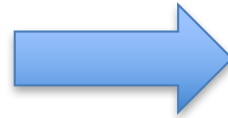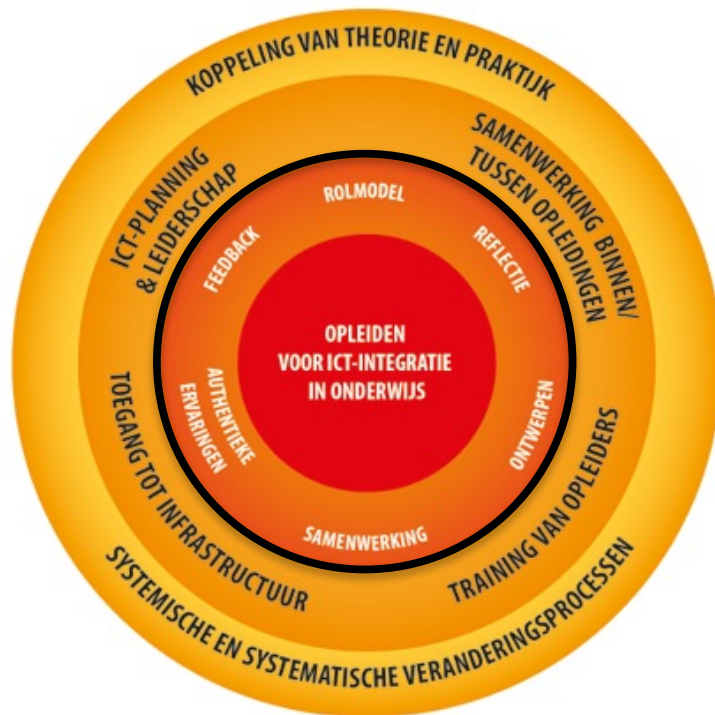
OV1:Invloed van de lerarenopleiding (6 strategieën op micro-niveau)
op pedagogisch-didactische ICT-competenties:
1) ICT-competenties van leerlingen bevorderen
2) ICT-rijke leeromgeving ontwikkelen
+
OV2: Invloed ICT-profiel studentleraren: "Attitudes over ICT (in onderwijs)"
"ICT Ease of Use", "Frequentie ICT-gebruik (voor onderwijs/vrije tijd)"

Onderzoeksopzet

Survey	20 Vlaamse lerarenopleidingen (LO en SO)
Respondenten	931 laatstejaarsstudenten (m=24j; 72% ♀)
Instrumenten	ICT-competenties "Pupil use" (Cronbach's α = .94) ICT-competenties "Instructional design" (Cronbach's α = .89) SQD-scale (Cronbach's α = .97) General Attitudes toward ICT Scale (Cronbach's α = .83) Attitudes toward ICT in Education Scale (Cronbach's α = .78). Ease of Use" (Cronbach's α = .88) Frequentie ICT-gebruik (vrije tijd/studie)

	ICTC PU		ICTC ID	
	Null model	**Model 3**	**Null model**	**Model 3**
Fixed				
Intercept (cons)	71.464 (0.644)***	70.171 (0.953)***	67.980 (0.836)***	67.186 (1.128)***
Gender (ref: male)		1.778 (1.048)		0.883 (1.131)
Age		-0.075 (0.062)		-0.078 (0.069)
ICT Private use		-0.041 (0.039)		0.050 (0.043)
ICT Educational use		-0.057 (0.031)		0.018 (0.035)
ICT attitude general		0.226 (0.040)***		0.091 (0.043)*
ICT attitude education		0.137 (0.035)***		0.085 (0.038)*
ICT ease of use		0.163 (0.030)***		0.217 (0.032)***
SQD		0.141 (0.023)***		0.258 (0.025)***
Random				
Institutional level				
Intercept (σ^2_{v0} and σ^2_{v1})	2.053 (2.161)	1.480 (1.554)	5.117 (3.792)	4.457 (3.027)
ICT PU/ICT ID (σ_{v01})	3.507 (2.674)	2.419 (1.879)	3.507 (2.674)	2.419 (1.879)
Student level				
Intercept (σ^2_{u0} and σ^2_{u1})	207.321 (10.540)***	126.973 (6.909)***	229.769 (12.033)***	146.169 (7.968)
ICT PU/ICT ID (σ_{u01})	140.682 (9.479)***	62.481 (5.774)***	140.682 (9.479)***	62.481 (5.774)***
Model Fit				
Deviance (2-log)[a]	12118.898	10518.021	12118.898	10518.021
χ^2	5.704	1600.877	5.704	1600.877
df	3	19	3	19
p	>.05	<.001	>.05	<.001
Reference	Single level model	Null model	Single level model	Null model

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Discussie

- Samenhang tussen zelfingeschatte ICT-competenties en SQD-strategieën.
  - Na correctie individuele kenmerken (ICT-gebruik en – attitudes)
- Beide types ICT-competenties worden door door dezelfde determinanten verklaard.
- ICT-attitudes studentleraren spelen belangrijke rol. Zij kunnen meegenomen worden in SQD-strategieën [9], bv:
  - Reflecteren over de rol van ICT in onderwijs
  - Samen ICT-rijke curriculummaterialen ontwerpen
- Vervolgonderzoek:
  - Bevorderen ICT-competenties lerarenopleiders (bv. Design Teams)
  - Kwaliteit ICT-activiteiten beoordelen

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Papers ?
Information ?
Collaboration?

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Schaal #1: ICT Pupil Use (ICT-eindtermen)

I am able to . . .	Factor 1 ICTC-PU	Factor 2 ICTC-ID
Item 1: motivate pupils to use ICT in a positive way	**0.77**	0.02
Item 2: stimulate pupils to use ICT in a critical manner	**0.83**	−0.14
Item 3: provide pupils with activities to exercise knowledge/skills by means of ICT	**0.74**	0.08
Item 4: provide pupils with activities on subject matters to learn with ICT	**0.57**	0.26
Item 5: offer pupils opportunities to express ideas in a creative way by means of ICT	**0.64**	0.12
Item 6: support pupils in searching information by means of ICT	**0.76**	−0.03
Item 7: support pupils in processing and managing information by means of ICT	**0.80**	0.04
Item 8: support pupils to present information by means of ICT	**0.76**	0.02
Item 9: support pupils to communicate with ICT in a safe, responsible and effective	**0.81**	−0.07

Schaal #2: ICT Instructional design (ICT-rijke omgeving)

Item 12: select ICT applications in view of a specific educational setting	−0.00	**0.80**
Item 13: (re)design ICT applications in view of a specific educational setting	−0.05	**0.71**
Item 14: use ICT to differentiate learning and instruction	0.09	**0.63**
Item 15: track the learning progress of pupils in a digital way	0.06	**0.59**
Item 16: evaluate pupils with the help of ICT	0.07	**0.61**
Item 17: use ICT appropriately to communicate with pupils	0.07	**0.70**
Item 18: design a learning environment with the available infrastructure	−0.02	**0.77**
Item 19: select ICT applications effectively in creating a learning environment (eg, in view of the group size)	−0.07	**0.85**

Instrumentontwikkeling SQD-strategieën

During my pre-service training, ...

Role model (ROL)	
(ROL1)	I saw many examples of ICT use in an educational setting
(ROL2)	I observed sufficient ICT use in an educational setting in order to integrate applications myself in the future
(ROL3)	I saw good examples of ICT practice that inspired me to use ICT applications in the classroom myself
(ROL4)	The potential of ICT use in education was demonstrated concretely
Reflection (REF)	
(REF1)	I was given the chance to reflect on the role of ICT in education
(REF2)	We discussed the challenges of integrating ICT in education
(REF3)	We were given the opportunity to discuss our experiences with ICT in the classroom (i.e., during internships)
(REF4)	There were specific occasions for us to discuss our general attitude towards ICT in education.