

Co-creating quality education for teaching and learning to develop high-quality argumentation

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Act now!





Many challenges!



Paralysis!

Urgency: "Learning by doing" och "doing by learning"

Higher education has become crucial

Time for creativity & high quality reflections, **argumentation** and experimentations



Education for high-quality argumentation

How to develop teaching → High-quality argumentation

- Students develop good arguments and a good argumentation
- Students are able to critical-constructive make analyses of one's own and other's argument and argumentation



Co-producing high-quality teaching plans

- Content expertise
- Didactical expertise:
 - Research-based
 - Experience-based
- Co-producing plans



Lesson Design Workshops

Specific co-producing method:

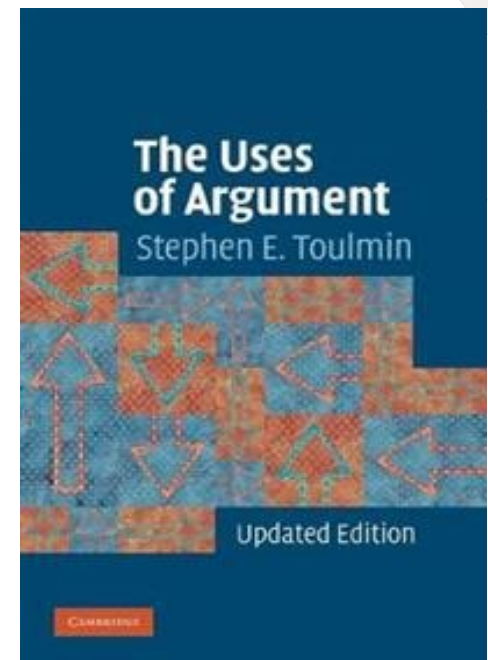
- Built on research
- 3-6 times a' 2 hours

- a) Research-based didactical models
- b) Content expertise
- c) Experience based professional knowledge



Didactic research on argumentation

- Toulmin's model of argument patterns has inspired educational research to conduct classroom studies
- For example: Rudsberg, Östman, Öhman: Transactional Argumentation Analysis
 - Students' learning in classroom discussions
 - Role of knowledge
 - Importance of peer interaction



Toulmin's model on argumentation

<https://www.youtube.com/watch?v=D-YPPQztuOY>

A didactical model for high-quality argumentation

Good arguments are:

1. relevant and to the point
2. substantiated and supported by compelling evidence
3. nuanced
4. take into account (possible) counter-arguments

Criteria	Levels of performance			
	Exceptional	Good	Sufficient	Poor
TO THE POINT*	The student formulates very clear and unambiguous claims and conclusions that are sharply focused on the topic of discussion and substantiates them with very relevant information	The student formulates clear claims and conclusions focused on the topic of discussion and substantiates these with relevant information	The student usually formulates clear claims and conclusions, largely linked to the topic of discussion and the information used to substantiate these is quite relevant	The student formulates claims and conclusions that are not to the point and/or tries to substantiate them with irrelevant information
SUBSTANTIATED*	The student systematically provides very convincing information ('evidence') to support and explain her/his claims and conclusions and is very critical with information when taking a position	The student uses convincing information ('evidence') to support and explain her/his claims and conclusions and deals critically with information when taking a position	The student usually uses information ('evidence') to support and explain her/his claim and conclusions and shows some critical awareness of the quality of that information	The student does not substantiate his/her claims and conclusions with convincing information ('evidence') and is uncritical with information when taking a position
NUANCED	<i>The student explicitly and precisely indicates the strengths and limitations of his/her statements and of the evidence used to substantiate statements</i>	<i>The student indicates the strengths and limitations of her/his statements and of the evidence used to substantiate statements</i>	<i>The student partially indicates the strengths and limitations of her/his statements and of the evidence used to substantiate statements</i>	<i>The student does not provide any indications of the strengths and limitations of his/her statements, nor of those of the evidence used to substantiate statements</i>
ATTENTION FOR COUNTER-ARGUMENTS	<i>The student often uses relevant and substantiated counter-arguments for other people's arguments, strongly anticipates possible counter-arguments against her/his arguments and explicitly points out possible circumstances under which statements would not hold</i>	<i>The student regularly uses relevant counter-arguments for other people's arguments, anticipates possible counter-arguments against her/his arguments and points out possible circumstances under which statements would not hold</i>	<i>The student sometimes uses counter-arguments for other people's arguments, partly anticipates possible counter-arguments against her/his arguments and sometimes points to possible circumstances under which statements would not hold</i>	<i>The student does not raise counter-arguments for other people's arguments, does not anticipate possible counter-arguments against her/his arguments and does not address circumstances under which statements would not hold</i>
...

Questions

- A. What are the strengths and weaknesses amongst your students regarding developing high-quality arguments related to climate issue? Use the rubric.
- B. What would you like them to become better on?
- C. How can you realise your wish?
 - Super-light back-casting (brainstorm)

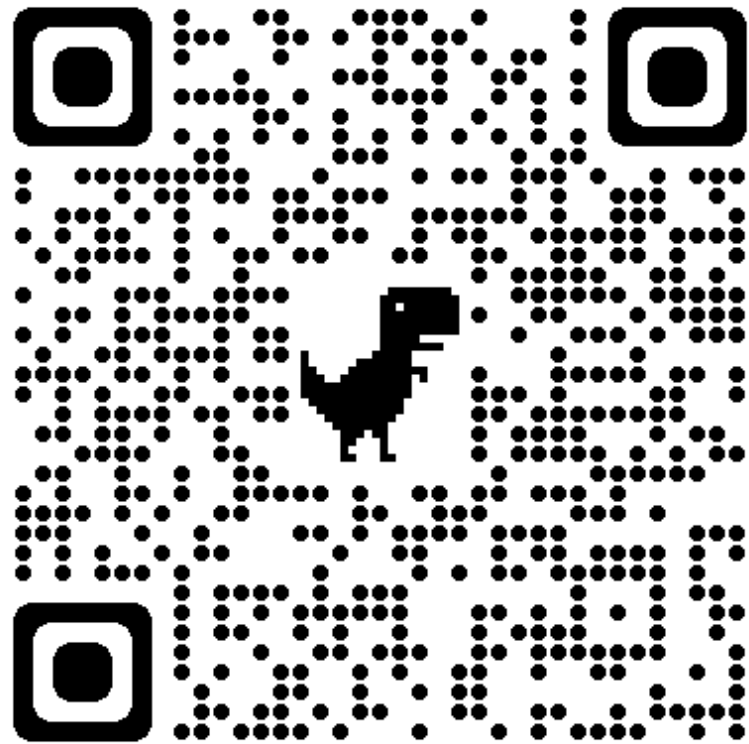
What's more ...

- Evaluating student work (written, oral), better feedback
- Communicating expectations to students (peer/self-assessment)
- Coordination within a team of teachers (same expectations, same 'language')
- “Curriculum reform”

VakOverschrijdend Project		Evaluatieboek "Kwaliteit van argumentatie" (papers)	
Kees van der Pijl, Lief Dierckx, Ellen Vandepitte, Michiel Hermans, Jeroen Dierckx, Heidi Vermeij, Mieke Condra & Rens De Raep			
Criteria	Argumentatie		
1. Inhoudelijke kwaliteit	De argumentatie is inhoudelijk correct en relevant voor de vraagstukken.	De argumentatie is inhoudelijk correct en relevant voor de vraagstukken.	De argumentatie is inhoudelijk correct en relevant voor de vraagstukken.
2. Structuur en organisatie	De argumentatie is goed gestructureerd en overzichtelijk.	De argumentatie is goed gestructureerd en overzichtelijk.	De argumentatie is goed gestructureerd en overzichtelijk.
3. Taalgebruik	De argumentatie is duidelijk en begrijpelijk.	De argumentatie is duidelijk en begrijpelijk.	De argumentatie is duidelijk en begrijpelijk.
4. Bronvermelding	De argumentatie is onderbouwd met relevante bronnen.	De argumentatie is onderbouwd met relevante bronnen.	De argumentatie is onderbouwd met relevante bronnen.
5. Conclusie	De argumentatie eindigt met een duidelijke conclusie.	De argumentatie eindigt met een duidelijke conclusie.	De argumentatie eindigt met een duidelijke conclusie.

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Criteria		Levels of performance			
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Main criterium	TO THE POINT	The student formulates very clear and unambiguous claims and conclusions that are sharply focused on the topic of discussion and substantiates them with very relevant information	The student formulates clear claims and conclusions focused on the topic of discussion and substantiates these with relevant information	The student usually formulates clear claims and conclusions, largely linked to the topic of discussion and the information used to substantiate these is quite relevant	The student formulates claims and conclusions that are not to the point and/or tries to substantiate them with irrelevant information
Sub-criteria	* Clarity of the claims made	The statements and conclusions argued for are obvious, unambiguous and clearly presented	The student points out the statements and conclusions argued for	The student vaguely describes the statements and conclusions argued for	It remains obscure which statements and conclusions the student is arguing for
	* Relevance of evidence	The student uses highly relevant evidence to support the claim	Most evidence used is relevant to support the claim	Most evidence used has some relevance to support the claim	The evidence used is irrelevant to support the claim

Main criterium	SUBSTANTIATED	The student systematically provides very convincing information ('evidence') to support and explain her/his claims and conclusions and is very critical with information when taking a position	The student uses convincing information ('evidence') to support and explain her/his claims and conclusions and deals critically with information when taking a position	The student usually uses information ('evidence') to support and explain her/his claims and conclusions and shows some critical awareness of the quality of that information	The student does not substantiate his/her claims and conclusions with convincing information ('evidence') and is uncritical with information when taking a position
Sub-criteria	* Use of evidence to substantiate claims	The student uses comprehensive evidence to underpin all claims made	The student uses evidence to underpin most of the claims made	The student uses some evidence to underpin her/his claims	The student does not use any evidence to underpin her/his claims
	* Correctness of evidence	All the evidence used to underpin claims is correct	Most evidence used to underpin claims is correct	Some evidence used to underpin claims is correct, other is incorrect	Most evidence used to underpin claims is incorrect
	<i>Reliability of data sources</i>	<i>The student uses evidence from highly reliable data sources</i>	<i>Most evidence used comes from data sources that are reliable</i>	<i>Most evidence used comes from data sources that have some reliability</i>	<i>The evidence used comes from data sources that are unreliable</i>
	<i>Scope of generalisation of the evidence</i>	<i>The evidence is valid at a general level</i>	<i>The evidence is valid in a range of different contexts/situations</i>	<i>The evidence is supporting the claims made in a very specific context/situation</i>	<i>The evidence used is merely anecdotic</i>
	<i>Variety of data sources</i>	<i>The student uses evidence from a wide variety of data sources</i>	<i>The student uses evidence from varied data sources</i>	<i>There is some variety in the data sources</i>	<i>The student does not use evidence from different data sources</i>
	<i>Awareness of quality of data sources</i>	<i>The student explicitly expresses correct assessment of the quality of data sources</i>	<i>The student shows some awareness of the quality of data sources</i>	<i>The student does not indicate any awareness of the quality of data sources</i>	<i>The student uses data sources with a questionable quality without showing any awareness of that</i>

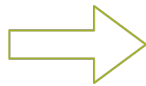
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Sub-criteria	<i>Acknowledgement of strengths and limits of the evidence used</i>	<i>The student explicitly and precisely points out the strengths and/or limits of the evidence used to support the claims made</i>	<i>The student indicates strengths and/or limits of the evidence used to support claims</i>	<i>The student implicitly indicates some strengths and/or limits of some of the evidence used to support claims</i>	<i>The student shows no awareness of the strengths and/or limits of the evidence used to support claims</i>
	<i>Use of qualifiers</i>	<i>The student explicitly and precisely indicates the strengths and/or limits of her/his statements</i>	<i>The student indicates the strengths and/or limits of her/his statements by the use of words such as 'most', 'perhaps', 'often', etc.</i>	<i>The student indicates the strengths and/or limits of some of her/his statements by the use of words such as 'most', 'perhaps', 'often', etc.</i>	<i>The student never indicates any strengths and/or limits of her/his statements</i>

Main criterium	ATTENTION FOR COUNTER-ARGUMENTS	<i>The student often uses relevant and substantiated counter-arguments for other people's arguments, strongly anticipates possible counter-arguments against her/his arguments and explicitly points out possible circumstances under which statements would not hold</i>	<i>The student regularly uses relevant counter-arguments for other people's arguments, anticipates possible counter-arguments against her/his arguments and points out possible circumstances under which statements would not hold</i>	<i>The student sometimes uses counter-arguments for other people's arguments, partly anticipates possible counter-arguments against her/his arguments and sometimes points to possible circumstances under which statements would not hold</i>	<i>The student does not raise counter-arguments for other people's arguments, does not anticipate possible counter-arguments against her/his arguments and does not address circumstances under which statements would not hold</i>
	Sub-criteria	<i>Use of counterarguments to others' arguments</i>	<i>The student uses relevant and substantiated counterarguments to others' arguments</i>	<i>The student uses counterarguments that are sufficiently relevant and substantiated</i>	<i>The student uses counterarguments that have some relevance or substantiation</i>
	<i>Anticipating on possible objections</i>	<i>The student comprehensively anticipates possible objections to her/his argument and responds to it in a clear, correct and relevant way</i>	<i>The student anticipates possible objections to her/his argument and responds to it in a sufficiently clear, correct and relevant way</i>	<i>The student formulates some adequate responses to possible objections to her/his argument</i>	<i>The student does not include possible objections to her/his argument and/or does not adequately respond to it</i>
	<i>Pointing out circumstances under which the claim is not valid</i>	<i>The student extensively identifies and explains relevant circumstances under which her/his claim would not hold true</i>	<i>The student addresses circumstances under which her/his claim would not hold true</i>	<i>The student mentions some circumstances under which her/his claim would not hold true</i>	<i>The student does not address any circumstances under which her/his claim would not hold true</i>

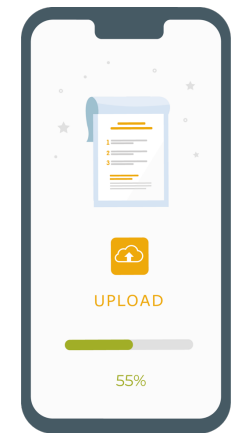
What's more: LDW + platform for up-scaling



Re-inventing the wheel

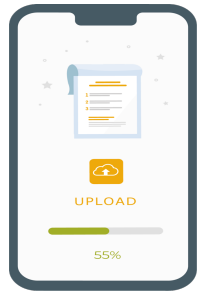


Lesson design workshop



Digital platform

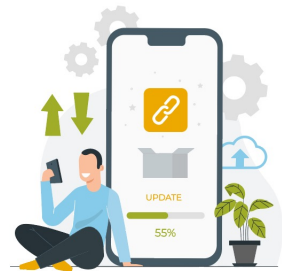
Whole system of quality care → continuous refinement



Digital platform



Lesson design workshops



Automatic reference system



Feedback by teachers



Feedback by researchers

REFINEMENT = better and better over time



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Laboratory for Teaching Practices



TePlab
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Toulmin's argument pattern (1958/2003):

