

AILA ReN on CLIL  
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# **Features of foreign language use in subject-specific task performance: processes and products**

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## Research questions

- Which features does 10th grade grammar school learners' use of L2 for subject-specific purposes in a CLIL context show?
- In which respects does L2 use differ from L1 use in solving subject-specific tasks?

DFG project '*Subject-specific learning and (foreign) language use: Task-based cognition, communication and co-operation*'

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analysis of learners' texts

analysis of task solving processes

## Elicitation instrument and population

- Geography competence test (17 tasks)
- Integrated application of higher order competences
- Developed in co-operation with experts on geography education (validity)
- Standardised test sessions (reliability)
- 10th grade grammar school learners: 90 taught in German, 84 in English

# Subject-specific task-based discourse competence

- Willingness and ability to use subject matter knowledge, methodological competence and subject-specific communicative competence to construct meaning that meets the requirements of the specific task and that follows the discourse conventions of the subject community.

## Rating scales

- Holistic scales (specified per task) – used to rate degree of task fulfilment
- Analytic scales (applied over all six tasks) – used to rate the correctness and appropriateness of the language use (textual realisation of meaning)
- Dichotomous and three-point scales – used to rate the correctness and completeness of the content (meaning constructed)

# Problematic features of CLIL learners' responses to subject-specific tasks

- Realisation of ideational meaning – incomplete and incorrect
- Insufficient and incorrect use of subject-specific terms and expressions
- Insufficient use of formal language and clear, succinct formulations

# Comparison of written responses produced in L1 and L2

- No statistically significant difference between quality of responses of two groups, except for performance on one task
- Conclusion: urgent need for development of subject-specific discourse competence in traditional and CLIL contexts

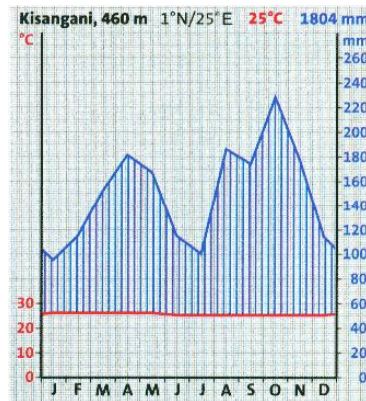
## Process analysis

- Does the use of the L2 English have an impact on the learners' cognitive processes while solving such task?
- Problem of methodology: How can we get insight into cognitive processes?
  - Think-aloud method (Eriksson & Simon)



# Think-aloud protocol

okay. . Temperature . . precipitation. (1 s) Dates (1 s) okay. Now [(quiet) I see] (1 s)  
January . low temperature (3 s) February low temperature March low tem- . m-  
higher higher . in April also higher higher in May higher . . down in January . erm in  
June and July . . and higher (1 s) erm the precipitation . is higher in (1 s) August .  
September October in October it's n- the highest (1 s) and then . . in November . .  
goes down. (1 s) Okay in the con- . temperature is constant all the time.



*Describe Kisangani's climate in detail with the help of the chart.*

## Focus on content

### Mona 1005-1.b)

	Transcript	External activity	Activity in the conceptual problem space	Activity in the linguistic problem space
007	. Temperature . . precipitation. (1 s) Dates (1 s)	Looks at material	Tries to construct a mental representation of the information in the CLIMATE GRAPH by constructing the concepts TEMPERATURE, PRECIPITATION and DATES	
008	okay.		Marks construction as finished	
009	Now [(with low voice) I see] (1 s) January . low temperature (1 s)	Looks at material	Turns focus to TEMPERATURE, tries to construct a mental representation of COURSE OF TEMPERATURE	
010	[(writing) (1 s)]	Writes N2Ó	Turns focus from COURSE OF TEMPERATURE to writing	Prepares text production
011	February low temperature March low tem- . m- higher higher . in April also higher higher in May . higher . . down in Januar	Looks at material	Turns focus back to COURSE OF TEMPERATURE, constructs a mental representation of the ANNUAL CURVE OF TEMPERATURE, reconstructs concepts of months and links them to CURVE OF TEMPERATURE	

# Focus on form and its impact on cognition

Katharina 6001-1.b)

	Transcript	External activity	Activity in the conceptual problem space	Activity in the linguistic problem space
097	[(writing) <u>h . the (1 s) most (1 s) [(whispering) arid] . . mmh. . months.</u> ]	Writes <u>h . the (1 s) most (1 s) [(whispering) arid] . . mmh. . months.</u>	Keeps concepts active, focuses on ARID	(Re-)constructs linguistic form
098	(4 s)		Keeps concepts active, focus on ARID	Evaluates formulation <u>h . the (1 s) most (1 s) [(whispering) arid] . . mmh. . months.</u> as possibly inappropriate
099	[(whispering) Arid [(in German) heißt doch (2 s) [(unclear) wenig Niederschlag und] humid (1 s) [(in German) viel Niederschlag [translation: Arid sure means little precipitation and humid much precipitation]		Reconstructs concepts ARID and HUMID with their features and re-establishes their relation	Allocates terminology to the concepts; assesses reconstruction of the linguistic form <u>h . the (1 s) most (1 s) [(whispering) arid] . . mmh. . months.</u> as adequate expression for concept ARID
100	ja.] [translation: yes]		Evaluates reconstruction of the concept relations as coherent	Evaluates reconstruction of term <u>h . the (1 s) most (1 s) [(whispering) arid] . . mmh. . months.</u> as adequate

# Focus on L2 form and its impact on cognition

- Table 3 on handout

# Cases of deeper semantic processing through focus on form

	Cases of deeper semantic processing: Generally language-caused	Cases of deeper semantic processing: Unclear, whether L2-caused	Cases of deeper semantic processing: Clearly L2-caused
Britt	3	4	8
Katharina	4	2	6
Jennifer	-	1	5
Karen	4	4	3
Bianca	-	2	1
Roland	2	-	1
Svenja	4	6	1
Tamara	-	-	1
Henriette	-	2	1
Kim	-	2	1
Sönke	1	2	-
Mona	1	2	-
Lara	-	1	-
Yvonne	-	-	-

## Results

An L2 as a working language has the potential to trigger L2 specific search processes and by that to increase linguistic reflection, which in turn can lead to deeper semantic processing of content.

When an adequate formulation for conceptual content has to be found, the use of an L2 enhances the effect of a deeper semantic processing, because here additional instances of linguistic problem solving occur compared to the use of an L1.

## For further information

- References on handouts
- And coffee breaks 😊

# References

- Coetzee-Lachmann, D. (2007). *Assessment of subject-specific task performance of bilingual geography learners: Analysing aspects of subject-specific written discourse*. Ph.D. diss., Osnabrück University ([http://elib.ub.uni-osnabrueck.de/publications/diss/E-Diss864\\_thesis.pdf](http://elib.ub.uni-osnabrueck.de/publications/diss/E-Diss864_thesis.pdf)).
- Ericsson, K. Anders & Simon, H. A. (1993): *Protocol analysis: Verbal reports as data. Revised edition*. Cambridge, MA: MIT Press.
- Heine, L. (2005): “Lautes Denken als Forschungsinstrument in der Fremdsprachenforschung“. In: *ZFF 17 (2)*, 163–185
- Heine, L. & K. Schramm (2007). “Lautes Denken in der Fremdsprachenforschung: Eine Handreichung für die empirische Praxis“. Vollmer, H. J. (ed.): *Synergieeffekte in der Fremdsprachenforschung: Empirische Zugänge, Probleme, Ergebnisse*. Frankfurt a.M. etc.: Lang, 167–206
- Heine, L.. (in print). *Problem solving in a foreign language. A study in Content and Language Integrated Learning*. [Studies on Language Acquisition]. Berlin, New York: Mouton de Gruyter.
- Vollmer, H. J. (2006). “Fachlichkeit und Sprachlichkeit“. *ZFF 17/2*, 1-45
- Vollmer, H. J. (2007). “Zur Modellierung und empirischen Erfassung von Fachkompetenz am Beispiel der Geographie“. In *Synergieeffekte in der Fremdsprachenforschung: Empirische Zugänge, Probleme, Ergebnisse*, Helmut Johannes Vollmer (ed.), 270–298. Frankfurt a. M.: Lang.