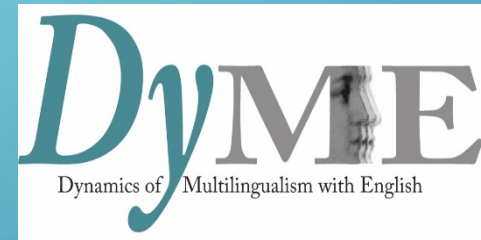


# The role of training metalinguistic awareness as mediation in multilingual learning contexts

Ulrike Jessner



Reading, March 21st, 2019

# structure

- DSCT/DMM as theoretical framework
- role of MLA in multilingual learning and use
- DyMe-studies in Tyrol and South Tyrol
- Outlook

# Multilingual learning and use

multilingualism lends itself to be studied from a  
DST (dynamic systems theory) / CT (complexity  
theory) perspective = DSCT

**the understanding of the behaviour and  
organisation of organisms as  
dynamic systems**

# DCST in applied linguistics / SLA & multilingualism

e.g. N. Ellis 2007; Larsen-Freeman & Cameron 2008; SI in MLJ: ed. de Bot 2008; SI in LL 2010; volume on CT in Encyclopedia of Applied Linguistics (ed. Chapelle 2012) etc.

Aronin & Singleton (2012); Dörnyei (2014)

Herdina & Larsen-Freeman (CUP; in press)

Larsen-Freeman & Cameron (2008) proposed that language be conceived of as a **complex, adaptive, dynamic** system... It is the way it is because of the way it has been used, **its emergent stabilities** emerging out of interaction.



# Dynamic systems /complexity theory

- investigates the interplay of stability and variation
- intrinsic dynamics of learner

learning and change is at once  
individual and social

# DSCT/DMM = metaphoric lens

focus on change  
in systems



# The M(ultilingualism)-Factor in multilingual proficiency/development (Herdina & Jessner 2002)

new skills (language-specific and non-language specific)  
contribute to **metasystem in multilinguals** (result of a  
bilingual norm)

prior linguistic, metalinguistic and metacognitive  
knowledge influence further language learning (2nd  
foreign language)

**key factor: metalinguistic awareness**

# influence between languages can lead to cumulative and non-predictable effects

(Paradox of Transfer)

- cumulative enhancement model  
(Flynn et al. 2004)
- overall increase in achievement in language learning  
(Griessler 2001; De Angelis & Jessner 2012; Hofer 2015)
- Common underlying proficiency (Cummins; Kecsecs & Papp 1998)

transfer from linguistic to cognitive level

# M-factor: key component multilingual awareness

from a DSCT-perspective

emergent property of the multilingual system

- result of autocatalytic effect
- only to be found in open systems
- function of the interaction between systems
- no systems (gestalt) properties per se

evidence from research on TLA and artificial language learning: **expert language learners outperform less experienced learners (general proficiency; MLA)**

# Metalinguistic awareness in bi/multilinguals

Differences and similarities between two systems concerning

- linguistic form
- form and meaning
- categorisation of words into parts of speech
- explanations why a word has a particular function

(Ianco-Worrall, Riccardelli ....Bialystok et al.; see also Cenoz 2003 for a review)

# Components of multilingual awareness

- **Metalinguistic awareness (MLA)**

set of skills/abilities which develop owing to prior linguistic and metacognitive knowledge influences further language learning

- **Crosslinguistic awareness (XLA)**

(tacit and explicit) awareness of the interaction between language systems

(Jessner 2006)



## relationship between MLA & XLA

- appear difficult to disentangle
- interact
- Both exert influence on the organization of the multilingual mental lexicon

**XLA** can be defined as the **awareness** (tacit and explicit) of the **interaction between the languages** in a multilingual's mind, **MLA** adds to this by **making objectification possible**



# multilingual awareness

- language learning strategies
- compensatory strategies
- (unknown) language decoding strategies
- language management
- language monitoring
- (new) word formation & use (creativity)

# The concept of multicompetence

‘the knowledge of more than one language in the same mind’  
(Cook, 1991)

‘the overall system of a mind or a community that uses more than one language’ (2015)

DMM:

- the presence, interaction and cross-fertilisation of multiple languages in the mind
- the way multilinguals draw on and make use of their multilingual repertoire to cope in every day communicative situations

# Examples from the multilingual classroom (Hofer)

## Thinking across languages – language (s) as the object of reflection and investigation

- Teacher: „Date uno sguardo all'italiano e al tedesco! Che cosa ci aiuta a capire qual'è il soggetto?

*[Have a look at Italian and German. What helps us understand where the subject is?]*

- Teacher: „Die Grundform heißt auch Infinitiv. Das habt ihr schon in italienisch gehört, oder?“

*[You have already heard about the infinitive in Italian, haven't you?]*

Pupil 1: „Ja“

Pupil 2: „Im\* Ende von Wort ist immer ,en‘.“

*[In end of word is always ,en'.]*

## multilingual awareness in experienced language learners

“I rather enjoyed getting acquainted with language archaeology. Was this only learning for learning’s sake? I don’t think so. Generally speaking, **old languages helped me understand language change, seeming inconsistencies and illogical paradigms. Also, at some point all these languages came to support each other.** English was a main source for German, my French benefited from Latin and English, Old English was not difficult at all because I could make use of Latin, English and German, whenever in trouble.”

(Popovic 2009: 38)

## multilingual awareness in experienced language learners

Having been made aware of some frequent and productive Greek affixes and roots, hundreds of words from different languages become easy to segment and understand. As a multilingual, I was getting many such “**free-rides**” and was empowered significantly. I was in a position to **activate word formation patterns** in my mental lexicon after minimal exposure, e.g.

-ción –tion,

-miento, -ment, mento,

-ity/tion – dad/ción

(Todeva 2009)

# Multilingual awareness in the school context

Is it possible to enable students to develop cognitive advantages in a schooling context (with or without benefitting from an authentic multilingual situation)?



studies in school context carried out at Innsbruck University

# Significant evidence of increased level of metalinguistic awareness

## primary school

### South Tyrol:

- ✓ Hofer (2015): Bolzano (Italian/German/English)
- ✓ Moroder (2013): Ladin community in South Tyrol (Ladin/Italian/German/English)

### North Tyrol:

- ✓ Traxl (2013): Innsbruck (Italian/German/English)

# Significant evidence of increased level of metalinguistic awareness

## secondary school

- ✓ Allgaeuer-Hackl (& Jessner 2014; Jessner 2014): Vorarlberg (Austria)

multilingual training session with focus on codeswitching, translanguaging, XLA, MLA etc.

Resource-oriented approach plus decoding strategies for new languages

- ✓ Scharf (2014): CLIL in Innsbruck Gymnasium  
biology lessons in English (in addition to other languages in the curriculum)



# More evidence

✓ Dahm (2015)

Developing cognitive strategies through *pluralistic approaches* based upon *unkown languages* (PAUL)

French school (88 students aged 12-13)

Research question: Can the strategies be transferred to the learning of English?

✓ students develop cognitive strategies (but also explicit instruction needed)

# More evidence

## attrition research

LAILA (linguistic awareness in language attrition)  
in Tyrol and LAILA-BICS in South Tyrol  
evidence of multilingual awareness  
counteracting attrition (Jessner et al. 2018;  
submitted)

## Summary of results

Development of multilingual awareness through

- CLIL – programmes (both primary and secondary level)
- explicit instruction on strategies and multilingual awareness raising in training sessions

---> *higher level of multilingual awareness and higher level of language proficiency in ALL the languages of the pupils*

# training of multilingual awareness as mediation tool

- Knowledge of languages
- Knowledge about languages
- Knowledge of multilingual development (including maintenance and attrition)
- Regulation / Control of that knowledge

in both teachers and students

# Multicompetence approach to fostering multilingual awareness/development in the classroom

- didactics of pluri/multilingualism (Moore; Candelier)
- Teaching for transfer (Cummins 2017)
- EuroCom: EuroSlav/EuroGerm/EuroRom
- comparative grammars (e.g. Eurolatin)
- special role of English (ELF)  
etymological approach to ELT (Jessner 2006)  
E as ice-breaker in multilingual education

# Outlook

- training of MLA as mediation in multilingual / multiliterate learners (application of DMM to multiliteracies)

goal:

change of thinking perspectives towards holistic multilingual assessment (beyond the idea of hybridity) by including multilingual awareness as key component of multilingual proficiency (CEFR)



# Metacognition in multilingual development: From multilingual children to polyglots

18th – 21th of September, 2019  
University of Innsbruck

<https://www.uibk.ac.at/anglistik/dyme/index.html.de>



Dzākùjā!

Thank you!

¡Gracias!

Дзякую!

Dziękuję!

Danke!

Спасибо !

Merci!

Köszönöm!

Grazie

aciu!

Diakuiu!

Obrigado!



# Metalinguistic awareness in multilinguals

- crucial differences between bi- and multilingual thinking
- higher or metalevel of understanding of a difference through comparison

# tacit vs. explicit XLA

(Jessner & Török 2016; decoding an unknown language)

- tacit XLA/CLIN:

PAR-581-T1-13 ...*es ist am (...) in einer geschichtli [Wort abgebrochen] also in ein der historischen Umgebung weil istorica zona [Spanish pronunciation] (...) in (...) der Stadt (...)*

- explicit XLA/CLIN:

PAR-487-T1-13 ...*also da steht irgendwas von rauchen, weil da fumilator steht und irgend [Wort abgebrochen] fumar [Spanish pronunciation] heißt ja auf Spanisch rauchen*

*Different levels of awareness?*

## Aronin & Jessner (2015): What can the butterfly tell us?

- comparison of two objects/entities  
on the basis of two things we attempt to  
make predictions with some confidence

= opportunity for cognitive growth, by  
comparison, not available when our mind  
investigates one entity only



# 黑龙江

# 黑龍江

L'ALPHABET  
FRANÇAIS

A B C D E F G  
H I J K L M N  
O P Q R S T U  
V W X Y Z



L'ALFABETO ITALIANO

A B C D E F G  
H I L M N O P  
Q R S T U V Z  
J K W X Y

# Khmer

/daə/	"to walk"	/damnaə/	"a trip"
/dəŋ/	"to know (something)"	/damnəŋ/	"information"

prefix root word suffix  
↓ ↓ ↓  
uncomfortable



# Aronin & Jessner (2015): What can the butterfly tell us?

- comparison of three things:
  - ✓ range of findings, outcomes and interconnections opens up
  - ✓ main finding: predictions made on the basis of only two things (processes, phenomena) are not unfailing!
  - ✓ encounter a new manifestation that does not confirm the predictions based on the two systems, which we thought to be a uniform rule

# Aronin & Jessner (2015): What can the butterfly tell us?

- metacognition in MULTI – linguals works at a higher level concerning
  - ✓ language use
  - ✓ language development

 **b**ilingual reasoning = complex

**m**ultilingual reasoning = **hyper**complex



## Complicatedness

(= manner of composition)

depends on:

number + diversity of  
*elements*;  
number + diversity of  
*relations* between

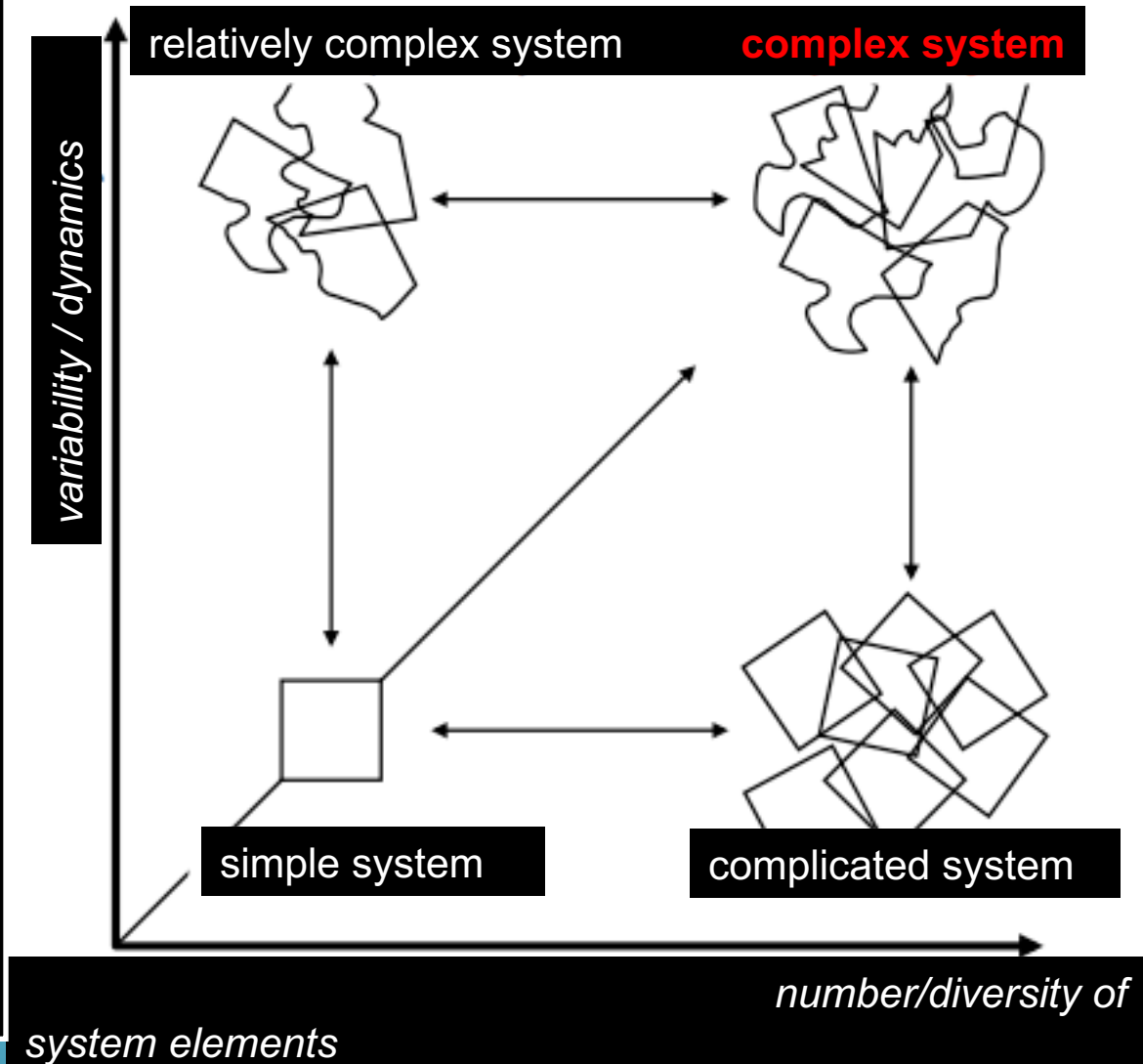
elements

## Complexity

(= variability over time)

depends on:

diversity of *behavioural options* of elements;  
variability of *effect development* between  
elements



# Multilingual awareness in the classroom

- word associations
- word architecture across languages
- tacit and explicit awareness

# references

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- *Crosslinguistic Influence and Crosslinguistic Interaction in Multilingual Language Learning*. Eds. Gessica de Angelis, Marijana Kresic and Ulrike Jessner. London: Bloomsbury, 2015.
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- Hofer, B. and Jessner, U. (2016) Multilingualism at the primary level in South Tyrol: How does multilingual education affect young learners' metalinguistic awareness and competence in L1, L2 and L3? *Language Learning Journal* (online July 28<sup>th</sup>, 2016)
-

# International vocabulary in Turkish – Find the languages „behind“ the words

Şort

Tişört

Pijama

Bluz

Bikini

Tiyatro

Blucin

Fabrika

Bisiklet

Mayo

Metro

Otomobil

Pantolon

Paraşüt

## Suffixes and how they change across languages (English, French, Spanish, Italian)

emotion
integration
capacity
possibility
actor
intelligent
important

- emotion – émotion – emoción –emozione
- capacity – capacité capacidad - capacítá
- actor – acteur – actor – attore
- Important – important – importante - importante

# Morphology: Latin Prefixes in English words

## How do they change across languages?

- a- (ab-, abs-)
- com-(con-, cor-, co-)
- re-
- di(s)-, dif-
- in- (im-)
- trans- (tra-)
- prae- (pre)
- pro-
- -tract
- -national
- -servation
- -ference
- -dition
- -sident
- -fect
- -pose

# XLA – “triggered” by contrast and comparison (tacit-explicit awareness)



# Study on the development of metalinguistic awareness in young adult learners in a schooling context

- (1)** Background information: school variables, multilingual learners, multilingual training
- (2)** Design of the study
- (3)** Selected results
- (4)** Discussion and conclusions



# (1) Continua of Multilingual Education applied to HLW Rankweil

The school is a vocational college for students aged 14-19 in Vorarlberg /Austria. Language learning is characterized by:

- **Linguistic variables:** Linguistic distance of languages learnt (E, F, Sp, It, R, Ch) – *from monolingual views to multilingual approaches*
- **Educational variables:** teachers, students, subjects, school context – *more monolingual than multilingual*
- **Sociolinguistic context:** micro and macro levels – *more multilingual than monolingual*

# (1) Students' routes to multilingualism (7 languages)

## Learners at HLW

L1+L2+L3+L4+L5+Ln

L1+L1+L3+L4+L5+Ln

L1+L2+L3+L4+Ln

German/variety of German

English

French

Spanish/Italian

Others

## Possible routes:

1. L1.....L2.....L3.....L4.....L5.....L6.....L7
2. L1.....L2/L3.....L4.....L5.....L6.....L7
3. L1.....L2.....L3/L4.....L5.....L6.....L7
4. L1.....L2.....L3.....L4/L5.....L6.....L7
5. L1.....L2.....L3.....L4.....L5/L6.....L7
6. L1.....L2.....L3.....L4.....L5.....L6/L7
7. L1/L2.....L3.....L4.....L5.....L6.....L7
8. L1/L2.....L3/L4.....L5/L6.....L7
9. L1/L2.....L3/L4.....L5.....L6.....L7
10. L1/L2.....L3/L4.....L5.....L6/L7
11. L1/L2.....L3/L4.....L5/L6/L7
12. L1/L2.....L3.....L4/L5.....L6.....L7
13. L1/L2.....L3.....L4/L5.....L6/L7
14. L1/L2.....L3.....L4.....L5/L6.....L7
15. L1/L2.....L3.....L4.....L5.....L6/L7
16. L1/L2.....L3.....L4.....L5/L6/L7
17. L1/L2.....L3/L4/L5.....L6.....L7
18. L1/L2.....L3/L4/L5.....L6/L7
19. L1/L2.....L3.....L4/L5/L6.....L7
20. L1/L2.....L3.....L4/L5/L6/L7
21. L1/L2.....L3/L4/L5.....L6/L7
22. L1/L2.....L3/L4/L5.....L6.....L7
23. L1/L2.....L3/L4/L5/L6.....L7
24. L1/L2/L3.....L4.....L5.....L6.....L7
25. L1/L2/L3.....L4/L5.....L6.....L7
26. L1/L2/L3.....L4/L5.....L6/L7
27. L1/L2/L3.....L4.....L5/L6.....L7
28. L1/L2/L3.....L4.....L5/L6/L7
29. L1/L2/L3.....L4.....L5.....L6/L7
30. L1/L2/L3.....L4/L5/L6.....L7
31. L1/L2/L3.....L4/L5.....L6/L7
32. L1/L2/L3.....L4/L5/L6/L7

# (1) Multilingual Training

- Offered in year 4
- Focuses on
  - Flexibility of language use
  - Metalinguistic awareness
  - Crosslinguistic awareness
  - Receptive knowledge of further languages
- Integrates all languages spoken by students or learnt at school.
- 1 lesson /week

## (2) Participants

- **Total sample: 92 students** (all students of one year)
  - controlled for gender, order of acquisition of languages, number of foreign languages, data recollection, monolingual-bilingual family background, marks
- **Final sample: 36 students**
  - MG (Multilingual training Group) and CG (Control Group) from two different classes.

## (2) Design and Timeline



## (2) Tasks

### 3 groups of tasks, 9 subtasks:

**A)** Task 1: Acceptability test (English text)

Task 4: Acceptability test / crosslinguistic awareness  
(French text)

**B)** Tasks 2 and 3: Grammatical metalinguistic awareness /  
grammatical inferencing test (Turkish, Finnish,  
Lithuanian)

**C)** Tasks 5 and 6: English Proficiency / Crosslinguistic  
awareness (English text)

Tasks 7-9: Crosslinguistic awareness

*See for example Cenoz (2003); Ellis (2009); Jessner (2006); Jessner (2008); Kemp (2001); Lasagabaster (1997); Pinto et al. (1995, 1997, 1999);*

## (2) Conditions (MG vs. CG) May 2010 vs. Oct. 2010

MG compared to CG (N 36):

**No significant** differences were found **before** the multilingual training concerning

- the marks (year 3, year 4)
- the LLAMA test results (year 3)
- the countries chosen for work placement

*[P. M. Meara, Llama Language Aptitude Tests, Swansea: Lognostics, 2005;*

*Cf. Language aptitude tests developed by Carroll & Sapon (1959); Service (1992); Service & Kohonen (1995); Skehan (1989, 1998); Special, Ellis & Bywater (2004)]*

## (2) Results (MG compared to CG) Oct. 2010 vs. May 2011

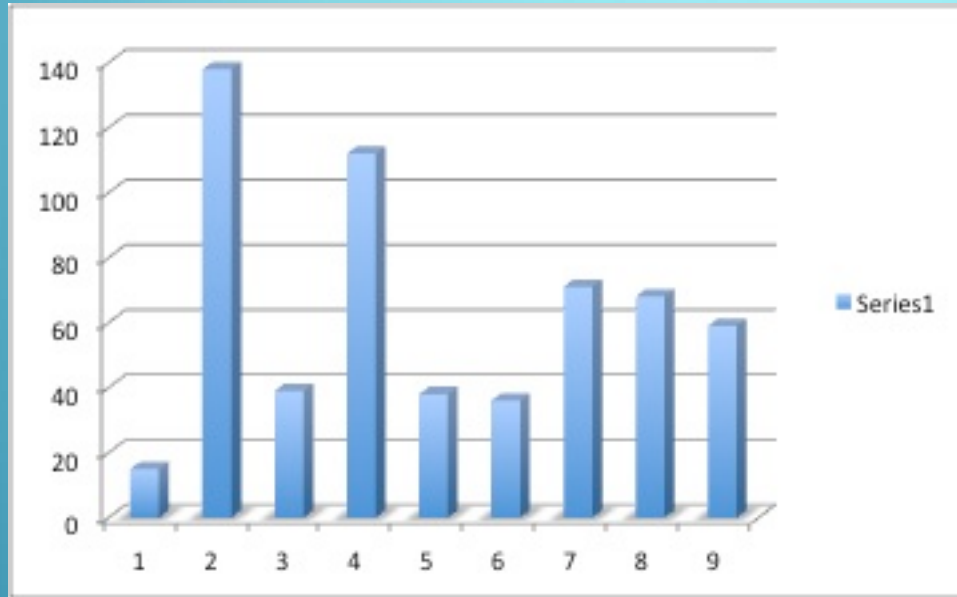
**Significant differences** were found **after** the multilingual training concerning the following tasks

- T2 (grammatical inferencing test)
- T3 (grammatical inferencing test - application)

$p = 0,002$  (T-test);  $0,008$  (multivariate test) for T 2; results of T 3 correlate significantly with T 2.

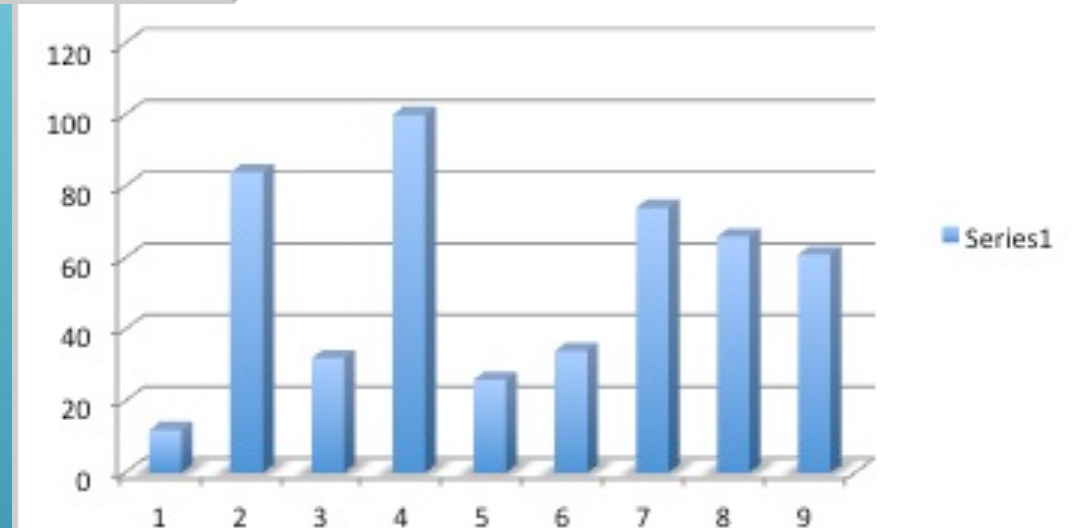


# (2) MG vs. CG: Results May 2011 All Subtasks



**MG**

**CG**



## AIM OF THE STUDY

Investigating differences between bilingual (German/Italian) and monolingual (German) primary school children in their performance on tasks from two areas:

- PROFICIENCY in terms of vocabulary knowledge and oral production in English

AWARENESS of how language works and the ABILITY to manipulate language

## OUTCOME

As hypothesised, the analysis of the results obtained in this study have proven that the pupils attending the bilingual project demonstrated superiority over their monolingual counterparts.

The bilingual group outscored the monolingual group on all the test

of this study showed that:

**LEARNING AND EXTENSIVE EXPOSURE TO TWO OR MORE LANGUAGES ENTAILS MASTER FURTHER LANGUAGE LEARNING and ALSO ENTAIL A HIGHER LEVEL OF MLA.**

### PRELIMINARY REMARKS

Data collection: June 2013, Tyrol, three test tasks, background questionnaires, classroom observation, interviews;

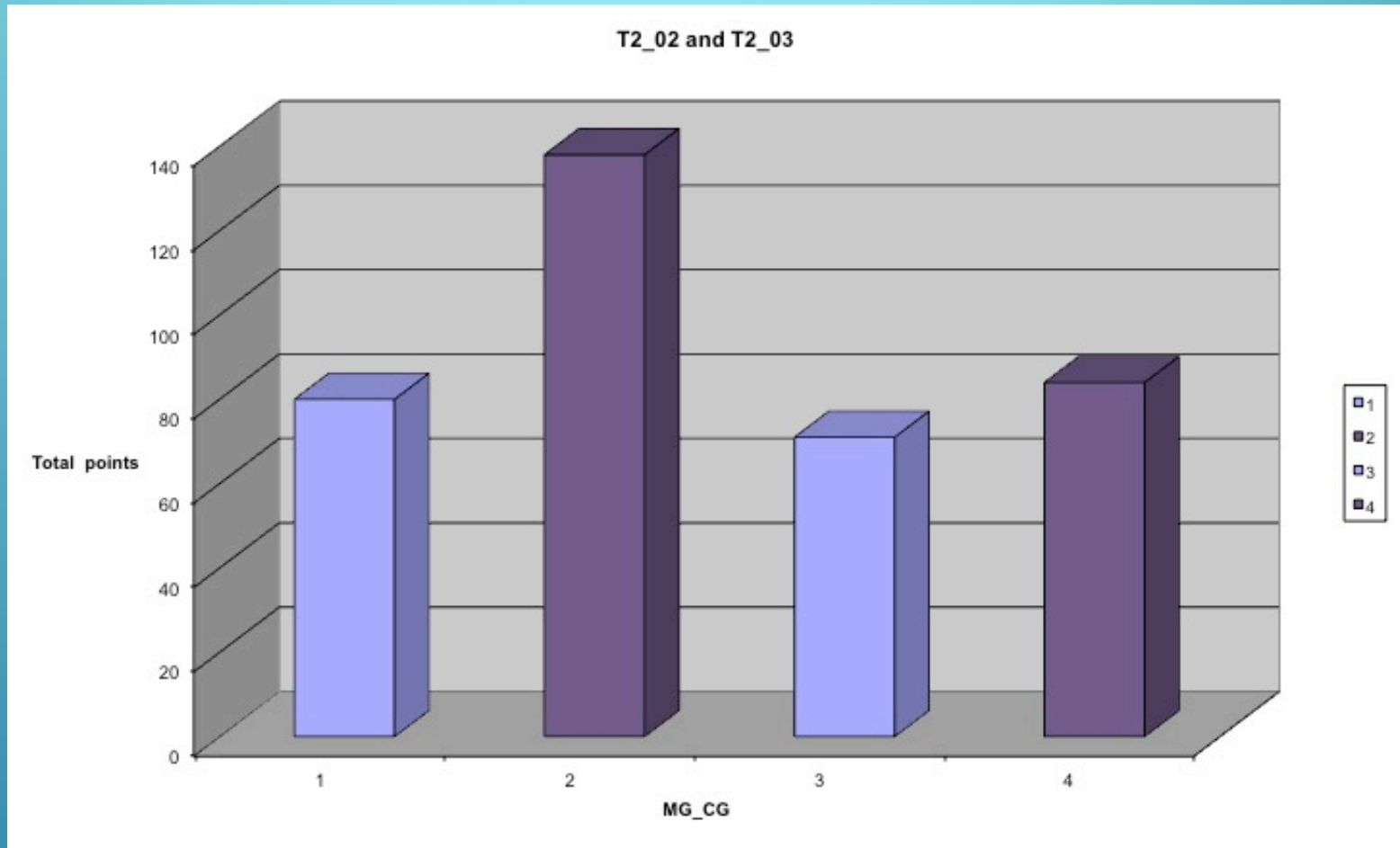
Participants: 34 pupils, aged 10 on average, equally distributed in gender;

Exposure to English: bilingual group one year later than monolingual group;



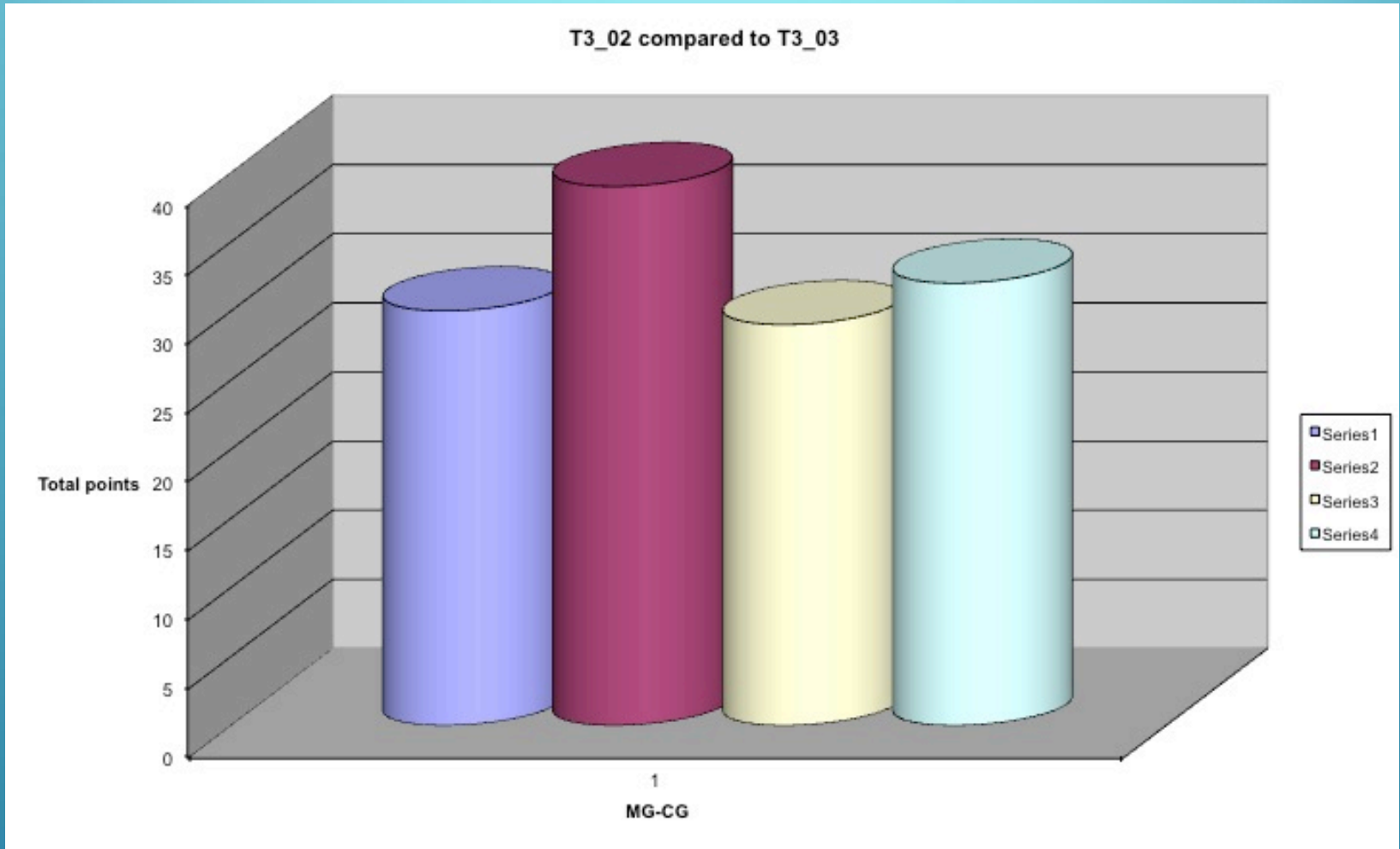
# (2) Task 2

## Oct. 2010 vs. May 2011



# (2) Task 3

## Oct. 2010 vs. May 2011



**MG**

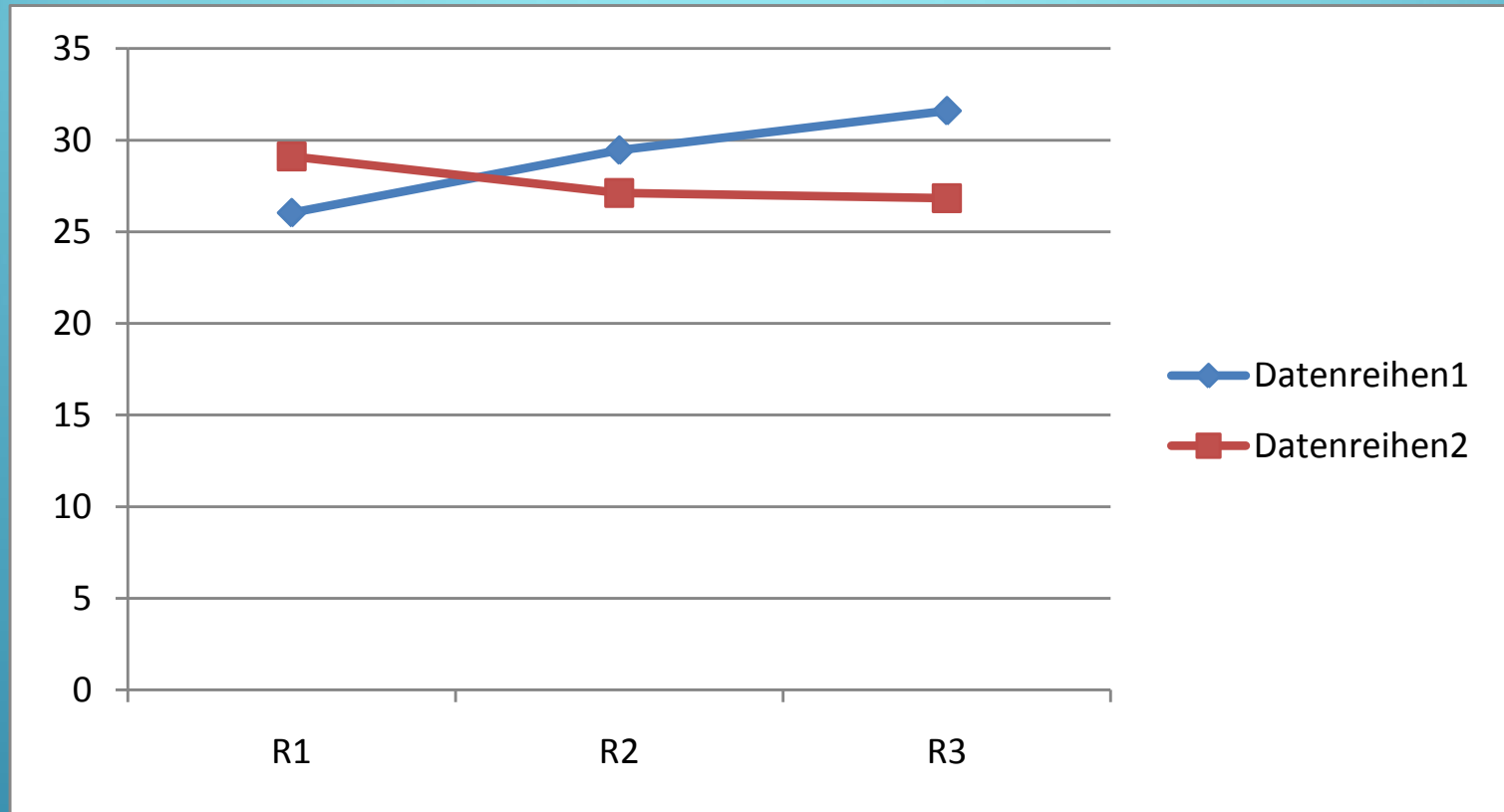
**CG**

## (3) Discussion

- Significant differences between MG and CG (N 36) after the training for one group of tasks (Tasks 2 and 3) were found ( $p < 0,05$ ).
- Significant differences for Task 5 were found for students if chosen from one class (N 27; MG vs. CG). These results indicate that more significant differences can be expected if the study is carried on with more students.
- Positive trends were found for individual, group, and class development.

# Positive Trend: MG-CG Overall Development

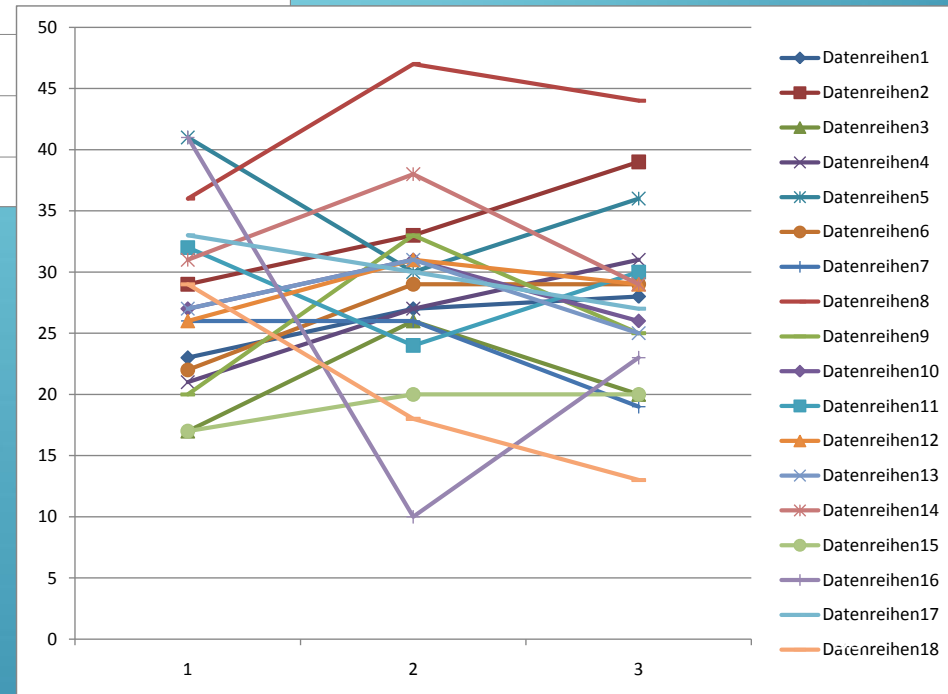
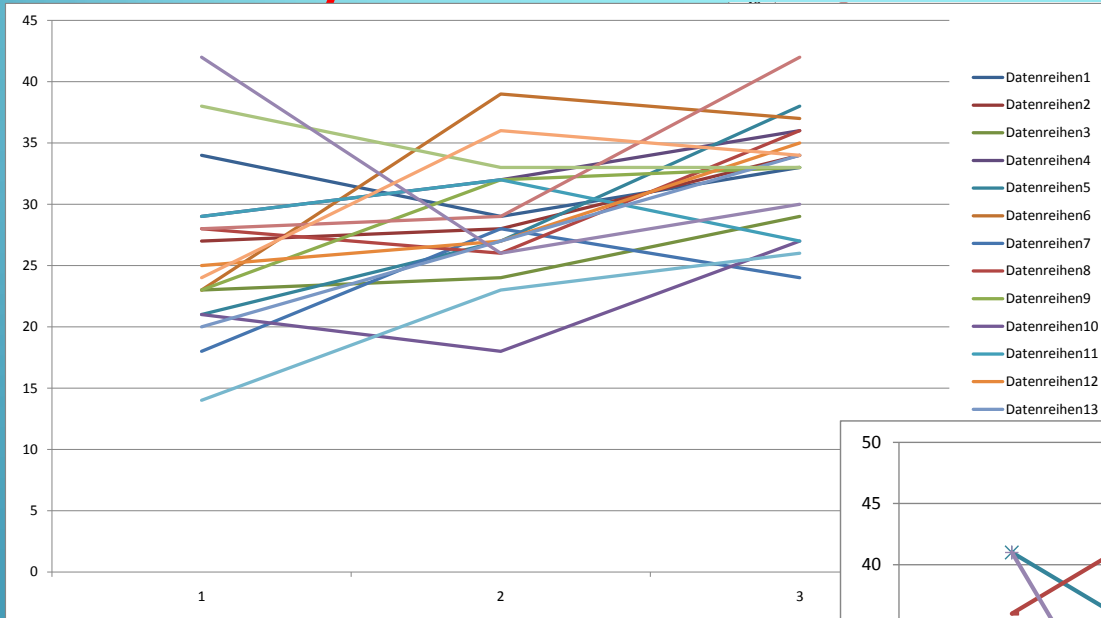
May 2010 vs. Oct. 2010 vs. May 2011



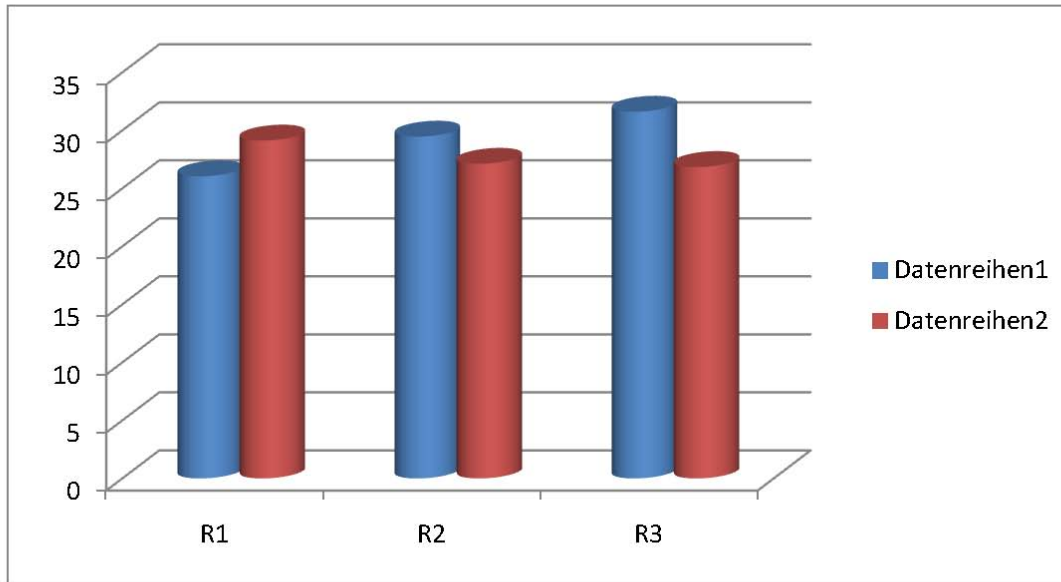
**Blue line: MG; red line: CG**

# (3) Positive Trend: MG-CG Individual Development

## May 2010 vs. Oct. 2010 vs. May 2011



# (3) Positive Trend in “ML” Class May 2010 vs. Oct. 2010 vs. May 2011



**Blue columns:  
MG**

**Red columns:  
CG**



## (4) Conclusions

- ...we need to honor complexity and avoid reductionism, rethink our units of analysis and move from individual to collective variables, examine carefully initial conditions; try not to isolate single causes for complex events; () see learners and their context as coupled (); abandon the goal of predictability and focus instead on tendencies, patterns and contingencies (Cenoz & Todeva 2009: 288).

*Cf. Herdina & Jessner (2002); De Bot et al. (2005); Larsen-Freeman & Cameron (2008); Kramsch (2002); Pavlenko and Blackledge (2004)*

## (4) Conclusions

- Training metalinguistic awareness shows some significant results in areas that are not directly trained but where students have to apply their knowledge to the analysis of a new language. This highlights the different quality in language learning skills in trained multilinguals (Herdina & Jessner 2002).
- More research is needed with more students: The study will be continued for at least another year.
- The focus will be on initial conditions and emerging qualities.

Dzākùjā!

Thank you!

¡Gracias!

Дзякую!

Dziękuję!

Danke!

Спасибо!

Grazie

谢谢!

aciu!

Obrigado!

Merci!

Diakuiu!

# Structure

- Metacognition in language learning
- Multilingual awareness: an emergent property of the multilingual system
- The development of multilingual awareness

 studies (Austria; South Tyrol)

- Implications for teaching & research

# Metacognition in learning

- Metacognition is often referred to as “thinking about thinking.”
- Metacognition is a regulatory system that helps a person understand and control his or her own cognitive performance.
- Metacognition allows people to take charge of their own learning. It involves awareness of how they learn, an evaluation of their learning needs, generating strategies to meet these needs and then implementing the strategies (Hacker, 2009)

# Metacognition in learning

metacognition consists of two complementary processes:

- 1) the knowledge of cognition
- 2) the regulation of cognition

## Metacognition in learning

- **Knowledge of cognition** has three components:
  - ✓ knowledge of the factors that influence one's own performance
  - ✓ knowing different types of strategies to use for learning
  - ✓ knowing what strategy to use for a specific learning situation.

# Metacognition in learning

- **Regulation of cognition** involves:
  - ✓ setting goals and planning
  - ✓ monitoring and controlling learning
  - ✓ and evaluating one's own regulation  
(assessing results and strategies used)



# Metacognition in multiple language learning and use

concerns several study areas of language learning

e.g.

- explicit & implicit
- strategies
- crosslinguistic phenomena
- awareness of use of more languages

> **consciousness & awareness**

Experience results in the development of *supersigns* (Dörner 1989):

- reduce complexity (a number of characteristics are bundled into one)
- situation is no conglomerate of single characteristics which must be controlled individually
- perceived as gestalt like the face of a friend which is not a multitude of colours, surfaces etc. but a well-known face



condensed information

