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Metaphonological awareness and foreign language pronunciation performance; a correlational study

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Aims

- To investigate metalinguistic awareness in L3 from the point of view of pronunciation
- To evaluate L3 pronunciation performance by means of ratings of foreign accentedness, comprehensibility and pronunciation accuracy
- To explore the relationship between pronunciation performance and metaphonological awareness in the acquisition of third language phonology



Research design

- Part 1: L3 pronunciation performance assessed by means of ratings involving 3 components:
 - foreign accentedness,
 - comprehensibility
 - pronunciation accuracy judgements.
- Part 2: Metaphonological awareness in L3
 - introspective and retrospective oral protocols
 - analysing and modifying previous L3 text reading recording
 - composite measure proposed

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Overview of related research

- Osborne (2003)
 - Verbal protocols, retrospective TAPs
 - Monitoring and self-correction of L2 pronunciation during oral task performance
- Venkatagiri & Levis (2007)
 - Strong positive correlation between composite phonological awareness scores and rated comprehensibility in L2
 - Positive correlation between phonological awareness and phonological short term memory
- Kennedy & Trofimovich (2010)
 - Relationship between quality of L2 pronunciation (comprehensibility ratings) and language awareness (journal entries)
- Wrembel 2013, 2014

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STUDY

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Participants

- L1 Polish N= 27 (22 F, 5 M)
- L2 English
- L3 French

		L2 English			L3 French				
	Age	Prof	YFT	AOL	Prof	YFT	AOL	Eval	Stay
<i>M</i>	20.3	B2/C1	11.8	8.5	A1/B2	3.7	16.3	2.6	1.7 w
<i>SD</i>	1.4		2.1	2.2		2.3	2.7	0.6	4.7

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Part 1: Accent ratings

- L3 pronunciation performance assessed by means of ratings involving 3 components:
 - foreign accentedness,
 - comprehensibility
 - pronunciation accuracy judgements.
- 7-point Likert scales
 - 1= strongly accented, 7 = native-like accent
 - 1= totally incomprehensible, 7= totally comprehensible
 - 1 = totally incorrect, 7 = totally correct
- speech samples of L3 French
 - excerpts 10-20s long
 - read-on-your-own task
- online survey including 22 raters

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Part 1: Raters

- Raters N=22:
 - 10 NS of French
 - 12 Polish NNS with a near-native in French
- Previous phonetic training:
 - 64% YES
 - 36% NO
- Proficiency in French
 - advanced (M=3.9 out of 5 max)
- Exposure to foreign accented French
 - Frequent (M=4, out of 5 max)

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Part 1: Results (1)

L3 pronunciation ratings

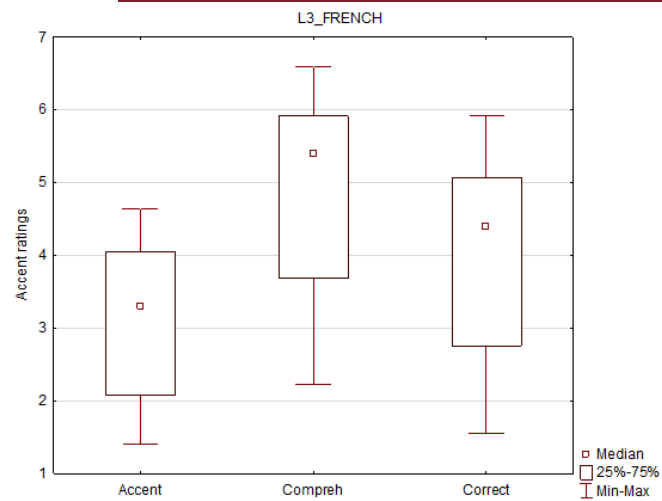
	n	Mean	SD	Median
<u>Accent</u>	616	3.1	1.7	3.0
<u>Comprehensibility</u>	616	4.9	1.8	5.0
<u>Correctness</u>	616	4.0	1.7	4.0

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Part 1: Results (2)



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Part 1: Results (3)

Spearman rank correlations

Variables	n	R _s	t(n-2)	p
Foreign accent & comprehensibility	616	0.52	15.26	0.00000*
Foreign accent & correctness	616	0.64	20.88	0.00000*
Comprehensibility & correctness	616	0.78	30.70	0.00000*



Part 1: Results (4)

- **Interraters' reliability**
- Cronbach alpha coefficient of internal consistency between raters - very high:
 - accentedness $\alpha = 0.95$
 - comprehensibility $\alpha = 0.95$
 - correctness $\alpha = 0.93$
- Correlations between ratings and participants' variables
 - Acc/compreh/corr & L3_YFT (0.72 / 0.69 / 0.66)
 - Acc/compreh/corr & L3_AOL (-0.71 / -0.66 / -0.66)



Part 2: Objectives

- To assess metaphonological awareness during L3 oral performance
- To explore how L3 learners consciously notice pronunciation problems, how they attend to phonetic forms in L3 and modify their output
- To investigate the specific nature of multilingual processing
 - L3 phonological acquisition perspective
 - interaction of metalinguistic consciousness with a component of cross-linguistic awareness (Jessner 2006)



Part 2: Metaphonological awareness

- Stimulated recall verbal protocols
- Think Aloud Protocols - TAPs
 - verbalised reports aimed at disclosing the participants' intuition and mental processes when performing a given task
 - (near-) concurrent verbalisation
- Introspective method used e.g. in:
 - operationalizing attention and awareness in SLA (Leow 1998, 2001)
 - meta-awareness in multilinguals (Jessner 2006)



Research design (1)

Stage 1	L3 text reading Recording 1	
Stage 2	Analytic listening Recording 1 played back	
Stage 3	Stimulated recall protocols Recording 2	A) retrospective protocol self-correction comments on L3 phonetic performance B) introspective protocol self-reflection on L3 acquisition process

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Concept operationalisation

Metaphonological awareness – MPhA

1.	Noticing [ATTENTION]	- mentioning L3 phonetic features - commenting on one's own specific pronunciation problems
2.	Understanding [RULES]	- formulating phonetic rules - conscious analysis of L3 pronunciation performance
3.	Metacognition [COMMENTS]	- self-reflection on L3 pronunciation – on the learning process in general

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Coding system (1)

- Quantitative and qualitative data analysis:
- (1) Self-repair ad hoc [REPAIR]
 - during reading performance
- (2) Self-correction post hoc [CORR],
 - number of instances (i.e. raw frequency),
 - instances of successful /unsuccessful repairs,
- (3) Noticing one's own problems with L3 pronunciation [NOTICING]
 - number of instances (i.e. raw frequency),
 - categorization of problems



Coding system (2) – retrospective protocols

- (4) Levels of complexity of awareness:
 - LOW level – noticing and attentional focus on relevant auditory forms [C1],
 - MEDIUM level – metalinguistic description or explanation [C2],
 - HIGH level – metalinguistic description or explanation and metalanguage [C3].
 - Typology adapted from Roehr (2006: 188)
- (5) Statements of phonological rules [RULES]



Coding system (3) - introspective protocols

- (6) Reports of cross-linguistic influence [CLI]
 - instances of interactions between active language systems
- (7) Explanations and metacognitive comments on L3 oral performance [COMMENTS],
 - self-report, i.e., general statements about the learning process [REPORT]
 - self-observation, i.e. inspections of specific language behaviour [OBSERVATIONS]
 - Cohen's (1996) typology

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Composite MPhA score

- A - Self-repair x 2
- B - Self-correction x 1
- C - Incorrect correction x -0.5
- D - Problems x 1
- E - Complexity C1 x 1
- F - Complexity C2 x 2
- G - Complexity C3 x 3
- H - CLI x1
- I - Phonological rules x 2
- J - Uncertain x -0.5
- K - Comments x 1

$A*2+B-C*0.5+D+E+F*2+G*3+H+I*2-J*0.5+K=MPHA$ score

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Part 2

RESULTS: RETROSPECTIVE & INTROSPECTIVE PROTOCOLS

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Self-repair and correction

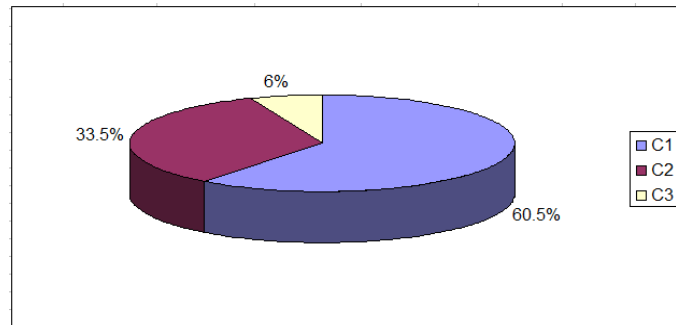
- **Self-repair** during L3 reading performance
 - only 20 instances of instantaneous self-correction
 - M=0.74 (SD=1.1)
 - ranged from 0 to 3 self-corrections per participant
 - **Epilinguistic** awareness limited
- Post-hoc **self-correction**
 - Correct: M=3.85 (SD=2.81)
 - Incorrect: M=2.26 (SD=2.67)
 - **Metalinguistic** awareness more manifested

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Complexity of reported awareness



C1 – low level, C2 - medium level, C3 – high level awareness

C1 – evidence of mostly intuitive noticing / implicit

C2 – partial evidence for conscious / explicit knowledge

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Metacognitive comments & explanations

- Statements of **phonological rules** in L3 French
 - conscious phonetic analysis
 - the use of metalanguage
 - N=30, M=1.1 (p.c.), SD=1.09
 - referring to salient features of French/English/Polish sound system
- Reported **cross-linguistic influence**
 - self-reports on perceived interactions
 - N=68, M=2.52 (p.c.), SD=0.98
 - declared sources of phonological transfer (L2-to-L3)
 - explanatory accounts;
 - recency of use, psychotypology

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CLI - examples

- *"At early stages I had more problems, more influences from L2, I was not aware of all those sounds that exist in different languages"*
- *"It's natural when you don't know a language you pattern pronunciation on your L1"*
- *"When I see a text in a foreign language I try to repress my ability to speak in Polish almost consciously"*

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Self-report - examples

- *"I am learning foreign languages consciously, that's what influences my learning of French"*
- *"I treat Polish as sth separate, whereas I put English and French into one bag, they influence each other"*
- *"I have to control myself not to articulate in an English way"*
- *"I don't have problems with switching into another foreign accent"*
- *"I think consciously when speaking foreign languages, that's why I can transfer some rules from English to French"*

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Self-observations - examples

- *"When I practice French at home, I start to articulate in an English way, I am so accustomed to articulating in English"*
- *"I catch myself pronouncing French in an English way, intonation and vowels are influenced most"*
- *"Polish and French are to me somewhat similar, e.g. the features of consonants"*

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MPhA composite score score

$$A*2+B-C*0.5+D+E+F*2+G*3+H+I*2-J*0.5+K=MPhA$$

- M=30.62 (SD=13.3), Range 6 – 54
- Spearman rank correlations between MPhS and participants' variables:
 - L3_YFT (Rs=0.56)
 - L3_AOL (Rs= -0.57)
 - L2_Prof (Rs=0.54)
 - L3_Prof (Rs=0.48)
 - Year of studies (Rs=0.51)

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Part 1 vs. Part 2

Spearman rank correlations between accentedness ratings and metaphonological awareness (MPhA) scores

Pairs of variables	n	r	t	p
Accent & Composite score	27	0.48	2.74	0.011141*
Comprehensibility & Composite score	27	0.47	2.64	0.014113*
Correctness & Composite score	27	0.46	2.59	0.015869*

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Conclusions (1)

- All aspects of L3 pronunciation performance correlated moderately with the participants' composite score for metaphonological awareness
- The higher the composite score of MPhA, the higher the participants scored for their L3 pronunciation performance, i.e.
 - sounding less foreign accented,
 - more comprehensible and correct
- Accent ratings in L3 follow the patterns reported in SLA

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Conclusions (2)

- Manifestations of MPhA :
 - At the level of noticing (Schmidt 2001)
 - noticing phonetic features of L3 performance
 - modifying mispronunciations through ad hoc self-corrections and post hoc self-repair.
 - At the level of understanding
 - reflective phonetic analysis
 - attempts to formulate phonological rules
 - At the level of metacognition
 - explanations of specific language behaviour, including erroneous phonetic renditions in L3 French



Conclusions (3)

- Greater explicit phonological awareness facilitates L3 speech comprehension, is correlated with lower accentedness and higher evaluation of pronunciation accuracy
- Pedagogical implications:
 - Drawing attention to formal properties of L3 (FonF)
 - Raising phonological awareness
- MPhA - a key component of multilingual competence



Thank you
 Danke
 Xie xie
 Khawp khun
 Yum
 Salut
 Mahalo
 Jospa
 Ogrigada
 Spacibo
 Arigato

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