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DIFFERENCES IN
REPORTED FOREIGN LANGUAGE LEARNER
STRATEGY USE
ACROSS EDUCATIONAL LEVELS

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Definition of FL Learning Strategies

FLLS are viewed as

- set of actions or steps taken by learners
 - to enhance their learning
 - to improve the development of their language skills (Oxford 1992)
 - to select, acquire, or integrate new knowledge (Weinstein, Mayer 1986)

An intense focus on learning strategies started with the development of cognitive psychology.

Concepts connected with FLLS

- strategic competence – competence to learn – strategic behavior
- learning techniques – learning patterns
- learning style – cognitive style
- self-regulated learning – autonomous learning – self-direction
- theories of first vs. second vs. foreign language acquisition

Discussion on the Concept of FLLS

- „moving target syndrome“
- strategies vs. techniques
- level of consciousness, planning, monitoring, awareness, ...
(Cohen, Macaro 2006)
- learner strategies (Ellis, Tarone, Macaro) vs. learning strategies (Cohen, Oxford)
- conceptual links between strategies and learning styles, personality and demographic variables
- problems with classification
 - different criteria
 - goal, psychological functions, language skills, learner types etc.

Taxonomy of Language Learning Strategies

Direct strategies			Indirect strategies		
Memory	Cognitive	Compensation	Metacognitive	Affective	Social
Creating mental linkages	Practising	Guessing intelligently	Centring your learning	Lowering your anxiety	Asking questions
Applying images, sounds	Receiving, sending messages	Overcoming limitations in speaking and writing	Arranging and planning your learning	Encouraging yourself	Cooperating with others
Reviewing well	Analysing, reasoning		Evaluating your learning	Taking your emotional temperature	Empathising with others
Employing action	Creating structure for input and output				

R. L. Oxford (1990)

Individual Differences in Strategy Use

Strategy use influenced by many factors

– resulting in inter- and intra-individual differences in strategy use

- age, proficiency, motivation, self-efficacy, self-concept, awareness of strategies, learning style, cognitive style, gender, experience, proficiency, previous knowledge, level of anxiety, interests, professional orientation etc.
- language tasks, instruction, teacher expectations, learning situation
- cultural background, environment, socio-economical capital

Age and proficiency are one of the most often focused factor in SLA research

Beginning of Research on Strategies

Early research started with successful learners.

Successful learners

- more strategies, more sophisticated
- orchestrated application: relevant to needs and task
(Cohen 1990, O'Malley, Chamot 1990, Oxford 1990, Wenden, Rubin 1987)

Less successful learners

- sometimes unaware of what strategies they use
- aware of just a few non-communicative strategies (Nyikos 1987)
- random application (Vann, Abraham 1989)
- problematic orchestration of strategies

Development of Strategy Research

Early research	Current research
<p>1980s/1990s swung between two extremes (good - less successful learners)</p> <ul style="list-style-type: none">•General patterns of desirable behaviour with high level of within subject variation•Specific examples of behaviour with little scope for within subject variation, related to non-specific tasks.	<p>Recent work has focused on specific examples of strategic behaviour in the contexts of specific tasks and skills.</p>
<p>Earlier work suggested that a successful learner had a vast repertoire of strategic behaviours.</p>	<p>Why is it that certain learners are able to combine strategies more effectively than others?</p>
<p>Unproblematical linking strategies with achievement.</p>	<p>Independent variables (learning stage, beginning of learning, rate of progress, achievement level relative to peers etc.) affect or are related to strategy deployment.</p>

Research on Strategy Use

- Foreign languages in western countries, primarily in the U.S.A.
 - Ramirez 1986, Chamot, Küpper 1989, Ehrman, Oxford 1989, 1990, Oxford, Nyikos 1989, Nyikos, Oxford 1993, Oxford, Ehrman 1995
- English as a second language in English speaking countries
 - Politzer, McGroarty 1985, in Wenden, Rubin 1987, Oxford et al. 1989, O'Malley, Chamot 1990, Phillips 1990, 1991
- English as a foreign language in other countries
 - in Oxford 1996a, Oxford, Burry-Stock 1995, Huang, van Naerssen 1987, Yang 1993, LoCastro 1994, Schmidt et al. 1996

Research at Primary Educational Level

Pupils tend to use:

- memory strategies (Kron-Sperl, Schneider, Hasselhorn 2008)
- social strategies (Wong-Fillmore 1976, 1979, Wong-Fillmore, Ammon, McLaughlin, Ammon 1985)
- cognitive strategies (Bautier-Castaing 1977, Wong-Fillmore 1976, 1979, Chamot, El-Dinary 1999)
- metacognitive strategy at lower use level (Najvarová 2008 – monitoring and evaluation strategies, Chamot, El-Dinary 1999)
- compensatory (Bautier-Castaing 1977, Gunning 1997, Coyle, Valcárcel 2002) and also affective strategies (Gunning 1997)

Sequence of use:

1st repetitive strategies

2nd interpersonal strategies

3rd metacognitive strategies (Chesterfield, Chesterfield 1985)

Differences between good and poor FL learners

Research at Lower Secondary Level

- Results complex and contradictory
 - contextual factors (sample homogeneity, cultural specific etc.)
- Higher strategy use by younger learners than older
 - even in case of complex and cognitively more demanding strategies (Artelt 2000, Hsu cit. 2009)
- X older learners use more complex strategies (Victori, Tragant 2003)
 - Younger learners don't have many strategies automatised, they need to use strategies consciously
- At least used memory strategies (Lan, Oxford 2003, Lan 2005, Večerková 2010)
- Low level of co-operation with peers (Lan, Oxford 2003, compare our results)
 - X younger learners use social strategies most (Victori, Tragant 2003)
- Compensatory strategies among the most used (Lan, Oxford 2003, Lan 2005, Večerková 2010)
- Cognitive strategies typical for good learners (Večerková 2010)

Research at Upper Secondary Level

- **The most used: compensatory strategies** (Lee 2003, 1994, Lee, Oxford 2008, Chang, Liu, Lee 2007, Vlčková 2005, Koudelková 2009, Přinosilová 2009, Grainger 1997)
 - or in case of Japanese cognitive strategies (Oxford a kol. 1993)
- **The least used: affective strategies** (Lee, Oxford 2008, Chang, Liu, Lee 2007, Vlčková 2002, 2005, Koudelková 2009, Přinosilová 2009)
 - than social and memory strategies (Lee, Oxford 2008, Chang, Liu, Lee 2007, Vlčková 2005, Koudelková 2009, Hufová 2010)
- **The order of use of strategy groups is stable in time in the Czech Republic** (Vlčková 2002, 2005, Koudelková 2009, Přinosilová 2009/Hufová 2010)
- **Socio-cultural background stronger predictor than age** (Griffiths 2003)
- **University students use strategies more than upper secondary pupils** (Khalil 2005)
 - and prefer different strategies (Lee, Oxford 2008).

Research Questions

- Do pupils at primary, lower and upper secondary levels of comprehensive education in the Czech Republic differ in their perceived strategy use?
- Do the variables affecting the strategy use and variables influenced by strategy use differ at the 3 levels?
- Are the results comparable to other studies and countries?
- Do the results support the theory of FLLS and age/proficiency?

Participants - Data Sampling

5th grade

56 schools

end of primary educational level

1482 pupils

9th grade

54 elementary schools

end of compulsory education

2384 pupils

penultimate year of grammar schools

22 upper secondary comprehensive schools

12th grade of comprehensive education, near the end of comprehensive education

1038 students

South Moravia region of the Czech Republic

non-random sampling

data collection through instructed administrators

Method

SILL (Oxford 1990)

- Strategy Inventory of Language Learning
- one of the most widely used strategy inventories
- 6 dimensions of strategies
 - memory, cognitive, compensatory
 - metacognitive, affective, social
- we used 5-point frequency scale

Examples of items

„To understand unfamiliar words, I make guesses.“

„I first skim an English passage (read over the passage quickly) then go back and read carefully.“

„I find the meaning of an English word by dividing it into parts that I understand.“

Reliability

Questionnaire

grade	coefficient Cronbach α	scale	sum of items
5th grade	0,74	3-point	28
9th grade	0,90	5-point	67
12th grade	0,96	5-point	67

9th grade

scales	α	N	sum of items
memory	0,55	2188	10
cognitive	0,80	2033	19
compensatory	0,65	2223	8
metacognitive	0,78	2033	15
affective	0,70	2183	7
social	0,61	2247	8

12th grade

scales	α	N	sum of items
memory	0,82	1034	10
cognitive	0,86	1028	19
compensatory	0,78	1033	8
metacognitive	0,78	1030	15
affective	0,71	1030	7
social	0,88	1030	8

Data Analyses

Descriptive statistics

normality test - Kolmogorow-Smirnov

Parametric and non parametric techniques

Mann-Whitney U-test, t-test,
Spearman correlation coefficient R
ANOVA, H-test (post hoc tests)

Software

Statistica 6

Missing data

N differs depending on the analysis

Level of significance

$p < 0,05$

in most cases $p = 0,00$

Characteristics of Participants

- The strategies were assessed in a „preferred“ language of the students:
 - most of the students preferred English
 - second most preferred language was German
- Nearly all pupils
 - learn English
 - started studying the first foreign language before the age of 10.
- Number of learnt foreign languages:
 - 5th grade: 92 % 1 FL
 - 9th grade: 69 % 1 FL, 27 % 2 FL
 - 12th grade: 61% 2 FL, 31 % 3 FL

Description of Respondents

With higher levels of education

increased

- number of learned languages
- variability of preferred FL*
- years of learning of preferred FL
- years of FL learning
(i.e. the starting point of FLL shifted to lower age of pupils)
- reported level of FL aptitude *
- reported FL proficiency *
- average rang of reading in the langugae skill development*

decreased

- rang of writing among language skills*
- the role of English as the first acquired FL *
- FL grades were worse
- informing how to learn
- practice of FLLS in the lessons*

** analysed only in the 9th and 12th grade*

5 > 12 > 9: reproted level of competence to learn

Characteristics of Participants

„I know how to learn“

- 5th grade: 14 % not, 50 % partly
- 9th grade: 30 % not, 38 % partly
- 12th grade: 32 % not, 38 % partly

Reported language aptitude

(„I am good at language“, „I have language aptitude“)

- 5th grade: 29 % not, 49 % partly
- 9th grade: 43 % not
- 12th grade: 37 % not



Need of
strategy
instruction

Learning strategies included in the instruction

- 5th grade: 18 % never (31 % sometimes)
- 9th grade: 30 % never
- 12th grade: 37 % never

Difference in FLLS Use

grade	x	SD	scale
5	2,06	0,27	3point (all items)
	3,28	0,63	5point/transformed
9	2,76	0,43	5point
12	2,92	0,37	5point

Medium level of strategy use (Oxford 1994)

5 > 12 > 9

- Reduced items battery for comparison:
 - Strategies relevant for primary level
 - Scale transformation

Difference in FLLS Use

5 > 9

- 13 from the 15 compared strategies
- 5th grade: the least used here were social strategies
 - Co-operation with colleagues while learning

12 > 9

- 39 strategies from 67
- cognitive, compensatory, metacognitive and social strategies

9 > 12

- 13 strategies

Differences in FLLS Use

- Direct strategies > indirect (12th, 9th)
- The least used group of strategies
 - memory (9th grade)
 - affective (12th grade)
- The order of strategy group (9th and 12th grade the same)
 - **compensatory, cognitive, metacognitive, social, memory/affective strategies**
 - order of strategies in the 12th grade is stable across more researches in the Czech Republic (Vlckova 2002)
- All strategy groups are medium used ($x = 2,5$ to $3,5$)
 - Except memory and affective strategies
 - upper range of low strategy use ($x = 1,5$ to $2,5$).

Not used strategies

Not used strategies ($x > 1,5$)

2 specific memory strategies

- 9th grade: mind maps
- 12th grade: mind maps and employing action

Low level of strategy use

Low level ($x = 1,5$ to $2,5$ on scale)

- **67 strategies from 22 in the 9th grade**
- **16 in the 12th grade**
- Only 1 cognitive strategy in the 5th grade ($x < 1,5$)
 - From group practicing (attending extra classes outside the school)
- Many strategies with low level of use are the same in the 9th and 12th grade.
- Not one of compensatory strategies was at low level of using.
- Not used strategies were similar types like in the research in the 12th grade in 2004 (Vlčková 2005).

Strategies with low level of use in the 9th and 12th grade

Strategies	9 th and 12 th grade	Only 9th grade	Only 12 th grade
Memory	Cards Imaginations Contextualisation	Acting out	Grouping
Cognitive	Summaries	Combining Thinking in the FL Cross-language comparison Practising, induction Writing notes	
Metacognitive	Planning of learning Middle/long term planning		
Affective	Encouraging yourself Self-reward Taking emotional temperature Overcoming stress		Discussing feelings
Social	Co-operation with peers	Knowing foreign culture Co-operation with natives Writing in FL	

Strategies with low level of use in the 9th and 12th grade

- Specific memory strategies
- planning
 - short, middle, long-term
- Some affective strategies
- Social strategies of peer co-operation
- In the 9th grade some important cognitive strategies not used

Strategies with high level of use in the 9th and 12th grade

- **Lower range of high level of strategy use**
 - $x = 3,5$ to $4,5$, i.e. often used
 - **10 strategies in the 12th grade**
 - **5 from 67 strategies in the 9th grade**

Results similar to
2004 in the 12th
grade (Vickova 2005)

strategies	9th and 12th grade	only 9th grade	only 12th grade
compensatory	simplification asking for help		thematic direction synonyms not translating word by word guessing
cognitive	repetition skimming	vocabulary, internet	highlighting
metacognitive			learning from mistakes

Strategies with high level of use

- Above all some of **compensatory and cognitive strategies**
 - 6 out of 10 compensatory strategies were often used in the 12th grade
- Only 1 strategy with high level of use
 - $x > 2,5$ at the 3point scale, nearly always used
 - **Looking for unknown words in dictionary** in the **5th grade**
- In the 5th grade some other cognitive strategies were often used
 - **repetition**
 - **practising of phonetic and orthographical system**

Direct strategies with high level of use

	12 > 9	12 = 9	9 > 12
M	<ul style="list-style-type: none"> Conections Contextualising Visualisation Phonetical representation 	<ul style="list-style-type: none"> Imagination Cards Structured revision 	<ul style="list-style-type: none"> Grouping Mind maps Acting out
KG	<ul style="list-style-type: none"> Repetition, Using phrases Using vocabulary Practising Imitating natives Thinking in FL Getting main ideas, Applying rules Analysing words Inter-language comparison Transfer cautiousness Notes taking Summarizing, Highlighting 		<ul style="list-style-type: none"> Practising phonetics, orthography Skimming
K	<ul style="list-style-type: none"> Guessing Gestures, mimics Simplification Neologisms Synonyms, circumlocution 	<ul style="list-style-type: none"> Getting help Choice of topics 	<ul style="list-style-type: none"> Avoiding unknown topics

Indirect strategies with high level of use in the 9th and 12th grade

	12 > 9	12 = 9	9 > 12
M	Monitoring mistakes Directed attention Selective attention Organisation of environment Having exercise book Recognising the purpose Anticipation Looking for practising	Evaluation of progress Overviewing, relating Postponing FL production Interest in learning Long term goals	Learning from mistakes Direction of learning Planning time for learning Middle term planning
A	Self-motivation Encouraging yourself to use the FL	Mediating feeling	Relaxation when stress occur Self-reward Paying attention to stress Taking emotional temperature
S	Asking for slowing down Writing letters in FL Co-operation with natives Emphatising with others	Meeting culture Co-operation with peers Asking for confirmation Asking for corection	

Differences in strategy use in the 9th and 12th grade

With higher level of education (from the 9th to 12th grade)

increased the frequency of use of

- many single strategies
- memory strategies based on mental representations
- almost all cognitive strategies
- compensatory strategies
- social strategies
 - above all based on communication directly in the FL

decreased

- avoiding conversation or topics
 - as a result of higher level of FL competence
- planning of learning
- use of affective strategies

Differences in variables influencing the strategy use

Variable	5th grade	9th	12th
Gender	-0,07**	-0,15**	-0,21**
Learning competence	0,26**	0,30**	0,32**
FL aptitude	0,28**	0,28**	0,24**
„Learning to learn“ instruction	0,25**	0,22**	0,13**
„Learning to learn“ practice	not measured	0,20**	0,14**
Beginning of FL learning	-	-0,09**	-
Years of preferred FL learning	not measured	0,06**	-
Language type (English, German)	-0,10**	-	-
Number of Languages	-	0,14**	0,22**

signf. level: *0,05, ** 0,01

— not stat. significant (Spearman correlation coefficient R)

Differences in variables influenced by strategy use

variables	5th grade	9th	12th
Grade/notes	-0.08*	-0.20**	-0,16**
Language knowledge (score)	-	0,20**	0,12**
Learning effectiveness	not measured	0,12**	-

— not statistically significant (Spearman correlation coefficient R)

grades (1 best, 5 worst)

Discussion

Pupils at all education levels were using learning strategies in a way.

Children at the primary level use simpler strategies than pupils at higher levels.

Many results seemed to reflect demographic composition of the groups.

Discussion

Compensatory strategies seemed to have a specific role in the school learning, they were used when pupils didn't know something, therefore these were not expected by teachers to be used in the classrooms.

Affective strategies were used when pupils experienced stress mostly when they were not “efficient” language learners, in the 9th grade more often than in the 5th or 12th grades.

Discussion

- It is not possible to speak about development of strategies
 - not the whole population at given ages was measured
- In larger samples ($N > 1000$) relationships can be significantly more easily found
 - only statistically significant results mentioned
 - Also the non-significant ones can be interesting though

Comparison of average strategy use in studies applying SILL

study	N	average	SD	year	grades	comments
5th grade elem. school	1482	3,28 (2,06)*	0,63 (0,27)	2006	5	Transformed scale – only 15 strategies
9th grade elem. school	2382	2,76	0,43	2006	9	
gymnasium	1033	2,92	0,37	2006	Upper secondary comprehensive school	
Vlčková 2005	446	2,70	0,42	2004	Upper secondary comprehensive school	More items than in 2006
Koudelková 2009a	101	2,9	–	2008	6 grades of French „gymnasium“	French
Bedell, Oxford 1996	353	3,19	0,47	1993	Average age 20 (16 – 39) secondary and tertiary education	English, China
Zhao 2009	254	2,57	0,59	2008	university	English, Thailand
Hsu, -	82	3,04	–	after 2003	6 (elementary school)	English, 30 strategies, Taiwan
Lan, Oxford 2003	379	2,9	0,73	-	6th grade	English, Taiwan
Gunning 1997	102	3,5	–	-	5th grade	English, francophone Canada

Discussion

Comparison of order of strategy use in studie using SILL

výzkum	průměrné pořadí					
	P	KG	K	M	A	S
9. ročník ZŠ	6	2	1	3	5	4
předposlední ročníky gymnázií,	5	2	1	3	6	4
předposlední ročníky gymnázia, 2004 (Vlčková 2005)	5	2	1	3	6	4
gymnázia, 3 poslední ročníky, 2001 (Vlčková 2002)	-	-	-	I	III	II
gymnázia, předposl. ročníky (Přinosilová 2009, Hufová 2010)	5	2	1	3	6	4
franc. gymnázium 6leté, všechny ročníky (Koudelková 2009a)	4/5	2	1	3	6	4/5
6. ročník ZŠ, 2009 (Večerková2010)*	V	IV	III	I	-	II
5. ročník základního vzdělávání, Kanada (Gunning 1997)	4/5/6	4/5/6	1	3	2	4/5/6
6. ročník základního vzdělávání, Taiwan (Lan, Oxford 2003)	6	3/4	1/2	3/4	1/2	5
6. ročník základního vzdělávání, Taiwan, (Hsu, po r. 2003)	5	3	6	2	1	4
sekundární školy, Korea 2000 (Lee 2003)	4/5	3	1	4/5	6	2
post-sekundární školy, Taiwan, (Hsu 2003)	6	5	1	4	2	3
univerzita, Thajsko (Zhao 2009)	6	3	1	2	4	5
univerzita, Hong Kong (Bremner 1999)	5	3	1	2	6	4

Conclusion

- Integration of FLLS into instruction has a positive effect on strategy use.
- Pupils need to learn how to learn
 - Strategy instruction is not enough a part of FL instruction
 - Not only useful for younger pupils but also for older ones
- Learning strategies are one of the goals of national curricula
 - It is necessary to develop them and assess systematically
 - It is not enough for them to appear as an occasional part of instruction

Conclusion

- When learning a foreign language, strategy use is unavoidable.
- Strategies were at all stages used rather unsystematically and there is an area for improvement. One of the reasons being the fact that 1/3 of the students admit not knowing how to learn.
- Results of the Czech Republic do not differ in basic aspect from results from other countries. The SILL inventory might be used successfully in the Czech Republic.

Recommendations

- Introduce strategies into the instruction – systematically
 - It is one of the goals of educational program
- Focus on efficiency of strategy use rather than only the number of strategies used and age/proficiency differences
- Keep other factors in mind (strategy orchestration, quality of strategy use)
- Focus on systematic and regular strategy assessment
- Support older learners in development of learning strategies as well



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Thank you for your attention and questions

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Discussion

SILL worked well and highly reliably in the Czech Republic.

- Some items seem to be culturally specific and not used in the Czech Republic (like writing diaries about language learning, mind mapping or employing action)

Conclusion

At all levels, two thirds of pupils stated they didn't know or only partly knew how to learn foreign language, around one third of pupils thought they didn't have language aptitude.

- Nevertheless, two thirds of pupils have never or scarcely had strategy instruction.
- We might assume that there is a gap between pupils/ needs and instructional opportunities, and pupils should be taught how to learn foreign language at all educational levels.