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# Metalinguistic knowledge and cognitive style in Polish classroom learners of English

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**Abstract**

In this exploratory study, we investigated the relationship between level of English metalinguistic knowledge, or explicit knowledge about the English language, and cognitive style on the wholist/analytic dimension in an intact group of young adult Polish learners of English as a foreign language. Contrary to expectation, metalinguistic knowledge was found to be correlated with a wholist stylistic orientation in the participants. It is argued that there may be an association between a preference for considering information in context and for thinking inductively by moving from observation to principle, and successful performance on a range of language tasks, including metalinguistic tasks which require the correction of highlighted errors and the statement of grammar rules. The paper concludes with proposed implications for learners and teachers in the language classroom.


*Keywords:* Cognitive style; Explicit learning; Metalinguistic knowledge; Second language learning; Second language teaching

## 1. Introduction

The aim of the present study was to explore the relationship between metalinguistic knowledge, or explicit knowledge about language, and wholist/analytic cognitive style in a group of Polish classroom learners of English. A possible association between learners' level of metalinguistic knowledge and their stylistic preference on the wholist/analytic dimension has been suggested (e.g. Roehr, 2008a), but there appears to be no published work which has tested this hypothesis empirically.

## 2. Background

Metalinguistic knowledge in adult second language (L2) learning is typically defined as explicit knowledge about the language that is being learned (Alderson et al., 1997; Elder et al., 1999). Explicit knowledge is knowledge that can be brought into conscious awareness and that is potentially available for verbal report (Hulstijn, 2005; Roehr, 2008b). Explicit knowledge is represented declaratively, and it can be contrasted with implicit knowledge, which cannot be brought into awareness or articulated (N. Ellis, 1994; R. Ellis, 2004).

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Many classroom learners of English as a foreign language (EFL) as well as many classroom learners of other foreign languages are exposed to metalinguistic knowledge on a regular basis. Language teachers, textbooks, grammar books, and dictionaries draw on explicit knowledge when describing aspects of language (intransitive verb; direct object; countable noun in the singular; etc.) as well as when explaining the use of particular linguistic constructions ('If the hearer knows which specific thing you are referring to, use the definite article'; 'In the third person present tense, an *–s* needs to be added to the verb'; etc.).

Applied linguistics research on L2 metalinguistic knowledge has led to two findings which are relevant to the current study. First, learners' level of metalinguistic knowledge typically correlates positively with levels of written L2 proficiency as measured by performance on tests of grammar and vocabulary, reading and writing (e.g. Alderson et al., 1997; Roehr, 2008b). Second, learners' level of metalinguistic knowledge may be predicted by individual learner differences in language learning experience (Renou, 2000; Roehr and Gánem-Gutiérrez, 2009b), language learning aptitude (Roehr and Gánem-Gutiérrez, 2009b) and – possibly – cognitive style (Collentine, 2000; Roehr, 2008a).

Cognitive style refers to "an individual's preferred and habitual approach to both organizing and representing information" (Riding, 2001: 48; see also Dörnyei, 2005; Dörnyei and Skehan, 2003). Some researchers regard cognitive and learning style as synonymous; others try to maintain a distinction between the two notions, arguing that cognitive style is a more narrow concept than learning style: Cognitive style is "a predisposition to process information in a characteristic manner", while learning style is "a typical preference for approaching learning in general" (Dörnyei and Skehan, 2003: 602).

In the present study, we will maintain the distinction between cognitive and learning style and focus on the former only. Cognitive style has been discussed in terms of different dimensions, e.g. fielddependent/field independent, wholist/analytic, verbal/imagery, and reflective/impulsive (see Dörnyei, 2005; Sternberg and Grigorenko, 1997 for recent reviews). Field dependence/field independence (FD/FI) is arguably the best-known dimension of cognitive style. It has a history spanning several decades, but its validity as a cognitive style dimension has repeatedly been called into question.

In its original definition, FD/FI refers to psychological differentiation, i.e. "the extent to which a person is dependent versus independent of the organization of the surrounding perceptual field" (Sternberg and Grigorenko, 1997: 703). FI is related to the ability to distinguish and isolate (sensory) experiences from the surrounding (sensory) input, while FD is related to the absence of this ability. Classic measures of FD/FI in the cognitive domain require the test taker to extract simple geometric figures from a more complex visual field (see, for instance, the Group Embedded Figures Test, Oltman et al., 1971). Since this task has to be performed as quickly and as accurately as possible and since only FI individuals can succeed, tests of this type are in fact closer to measures of spatial intelligence than to measures of cognitive style (Chapelle and Green, 1992; Miyake et al., 2001; see also Ehrman and Leaver, 2003 on field sensitivity/field insensitivity). In other words, classic measures of FD/FI are often measures of ability rather than measures of preference and thus do not directly operationalize the concept of cognitive style as defined above.

This issue has been addressed in more recent research which has focused on the wholist/analytic (W/A) dimension of cognitive style (Peterson and Deary, 2006; Peterson et al., 2003; Riding, 2001; Riding and Cheema, 1991; Riding and Pearson, 1994). Wholist individuals tend to organize information as an integrated whole, while analytic individuals tend to organize information in discrete parts. The W/A dimension is measured by means of a computer-based test which requires test takers to judge geometric figures. In the first part of the test, participants indicate whether two shapes are the same or different; wholist individuals are expected to be fast and accurate on this task. In the second part of the test, participants indicate whether a simple geometric shape is contained within a more complex shape; analytic individuals are expected to be fast and accurate on this task (see below for further details).

Applied linguists have argued that the study of cognitive style is relevant to the domain of L2 learning and teaching: Cognitive style cuts across cognitive, personality, and social domains; likewise, L2 learning and teaching are cognitive, affective, and sociological phenomena (Chapelle and Green, 1992). With regard to the FD/FI dimension, links have been suggested between FI and a preference for deductive language lessons during which principles are given, while consequences and applications are deduced. FI individuals may be good at phonological perception, imitation, listening comprehension, and they may do well on formal proficiency measures. By contrast, FD individuals are expected to prefer inductive language lessons during which facts and observations are given, while underlying principles are inferred. FD individuals may be good at pronunciation in production (Nel, 2008).

With regard to the W/A dimension of cognitive style, links have been identified between stylistic preferences and the use of communication strategies (Littlemore, 2001). At a more general level, it has been suggested that analytic