

# Learning Styles of Language Learners: Overview and Directions in Life-Long Learning Perspective

## Učební styly ve výuce jazyků: přehled a vývoj v perspektivě celoživotního učení

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**Abstrakt:** Článek byl napsán jako reakce na nedostatek systematických přehledových studií věnovaných učebním stylům v oblasti učení se jazykům. Autorka by ráda usnadnila čtenářům orientaci v problematice a podpořila informovanost o učebních stylech. Článek nově systematizuje modely učebních stylů do kategorií obecné a specificky vyvinuté pro učení se jazykům. Inovativně se také zabývá možnostmi jejich změn či zachováním. Součástí textu je i přehled hlavních literárních odkazů zaměřených na učební styly. Autorka navrhuje faktory, které by měly být brány v potaz při volbě vhodného modelu. V univerzitních jazykových kurzech by měly být podporovány styly, které umožňují celoživotní rozšíření jazykové kompetence. Text je doplněn přehledem návrhů pro výzkum v oblasti metakognitivních faktorů a faktorů pro celoživotní učení se jazykům. Obojí spolu s přispěním kognitivní psychologie může vést ke vzniku nových modelů v oblasti učení se jazykům.

**Klíčová slova:** učební styly, celoživotní učení, metodologie učení se jazykům, kognitivní psychologie

**Abstract:** The article was compiled because of lack of comprehensive works providing an overall systematic view of the field of language learning styles. The author intends to make orientation in the field easier and, moreover, to enhance awareness of learning styles to a desirable level. As a novelty, it systemizes them into categories of general and language learning focused models and discusses possibility of their change or preservation. The overview also deals with literature findings on styles. The author suggests factors influencing choice of suitable models. She also designs practical advice on their implementation and emphasizes necessity to develop life-long applicable styles in university language courses. Moreover, she proposes both extension of present models with metacognitive and self-regulative aspects and implementation of research aimed at factors of life-long language learning that could produce new models with relevant proportion of metacognitive items. Extended application of educational psychology findings in the field of language learning methodology is emphasized.

**Key words:** learning styles; life-long learning; language learning methodology; educational psychology.

## 1 Introduction

Four decades ago teachers and researchers aimed at effective ways of language learning with a focus on its individualization. The above attempts were reflected in the introduction of the new *learning styles* and *strategies* constructs and their models.

Studies on learning styles in English learning process have been published since the 1970s. Substantial extension of research in this field was intensified towards the end of the 1990s. The reason for its massive intensification, especially in the USA, consists in intention to enhance both success of language courses and improvement of course marks. Generally said, enhanced effectiveness of language courses reflecting a deep insight into the process of language learning became the main motivation for thorough exploration of learning styles.

As time has passed, manifold general models of learning styles have been applied to study the process of language learning. Some language educators have also shaped subject specific models of learning styles. Nowadays, their scale stretches from the general Dunns' perception preference comprising approaches and Kolb's experiential learning model to Oxford's Strategy inventory of language learning (SILL). Up till now, many language learning specialists have agreed on the positive impact of teachers' awareness of various learning styles considered in the curriculum design, and its leading to enhanced language performance (Park, 2002, p. 456-7; Rocheford, 2003, p. 675). However, the wide field of both general and language focused learning concepts has not been fully systemized, thus making their consideration in language course curricula arduous similarly to the situation with general learning styles in psychology and pedagogy. Therefore, the aim of this article is to provide a novel fundamental outline and systemization of the above concepts and to have some models emerge like islands and archipelagos from the vast ocean that can then be safely sailed by language teachers. This overview of learning styles intends to see the problems both by the researchers' and teachers' eyes.

During elaboration of her doctoral thesis, the author found out that there is a lack of journal overview articles focused on the above topic. They could make familiarization with the topic effective and also provide language teachers with a relevant insight.

Up to now, many researchers have implemented quite a thorough investigation of the process of language learning in teacher-instructed lessons; nevertheless, alumni will need to advance knowledge obtained in university courses even after their completion. With the exception of Cohen's Styles and Strategies Based Instruction (SSBI) (2002), rare attempts to consider the ways of life-long enhancement of language competence have emerged.

Having provided basic ideas on state-of-the-art of language learning styles, the introductory section submits outline of aspects discussed hereafter, which makes reading the article useful and palatable. The attempt to extend language methodology with general pedagogy and psychology items represents a distinctive feature of this contribution. The survey is also extended by the results of research on learning styles and strategies and by its implications for practice. Comments on

their stability bring an innovative perspective to the field of language learning. The article concludes with suggestions for future research.

Learning styles are to be discussed first. Because of many ambiguous definitions and views, the following chapter contains a brief explanation of basic terms.

## **2 Learning Styles of Language Learners**

### **2.1 Basic Terminology and Concepts**

Because of research done in a variety of disciplines extending from medical and health-care training to management, industry, and education, the background conceptions for shaping the definitions of learning style (LS) are manifold (Cassidy, 2004, p. 419). An American researcher, De Bello (1990), declares that the number of LS definitions corresponds to the number of LS model authors. He defines them in the following way: "Learning style is the way learners absorb, process, and remember information" (De Bello, 1990, p. 204). According to Gregorc (1979), "Learning style is based on typical behavior that serves as an indicator of the way of learning in specific environments and also as an indicator of adaptation to a particular learning environment. Moreover, it shows how student's brain works" (p. 234). A Czech specialist, professor Mares, (1994) states:

Learning styles are procedures or methods employed by individuals during learning that are preferred in particular period of their lives. The character of the procedure is expressed in its structure, quality, sequence of individual steps, and flexibility of their application. Learners use the above procedures independent of learning content in most learning situations. Learning styles have the character of meta-strategies. Particular learning styles lead to particular achievements but often protect learners from different learning outcomes (often better ones). Learners mostly neither realize nor analyze them systematically (p. 4).

Learning styles are described by various models employing mostly author-developed research tools. Some learning styles models are diversified into more level versions according to age and level of education such as the primary, secondary or tertiary sphere. Other models concentrate on a single type of learners, so they utilize just one-level versions.

Besides general models of learning styles aimed at the overall learning process, special ones focused on learning individual disciplines and subjects including languages have been introduced.

Stability and changes of learning styles have been discussed in the past decade. Some long-term studies suggest that learning styles do not undergo changes (Mares, 1998). They also discuss the role of sensitivity of research tools that might influence ability to monitor their changes. The number of researchers reporting

possible modifications of learning styles has increased lately. A British scholar Cassidy (2004) expressed an idea on learning styles structure responding to learner's experience and situational requirements with its adaptation as the result. Dutch researchers stated general agreement on modifiability of learning styles of university students (Vermunt & Minnaert, 2003). Generally speaking, stability of learning styles related to time, learning environment, and context or other specific conditions is suggested to be judged according to individual characteristics and components of their models (Fišerová, 2006).

Another closely related construct of learning strategies can also be included into this general introductory section. Pedagogues describe learning strategies as "specific ways of mastering learning situations that can be trained" (Riding & Cheema, 1991, p. 195). Concerning the relation between language learning styles and strategies, Cohen (2003) comments on the subject in the following way: "Language learning styles are general approaches to language learning, while strategies are specific behaviors that learners select in their language learning and use" (p. 279). "In dealing with this task, learner will draw on series of strategies that are presumably consistent with his or her style preference" (p. 281). Some educationalists do not specify an interrelation between the above constructs. A thorough overview of language learning strategies is provided by Griffiths and Oxford (2014).

The author suggests the strategies to be understood as basic building blocks of learning styles.

## **2.2 Selected General Models of Learning Styles**

This chapter gives a brief survey of the most frequently used general models and definitions shaped in the fields of pedagogy and psychology. The learning styles models mentioned below have been selected either according to frequency of their application in language teaching practice or because of their potential to inspire language teachers. An extended survey of general learning styles can be found, for example, in the publications by Cassidy (2004), De Bello (1990), and Entwistle (1981).

### **2.2.1 Curry's onion model**

This model has been regarded as a very fundamental one. A Canadian researcher, Lyn Curry, shaped an onion model of learning styles with personal descriptors (an individual's behavior in learning situations) in its center. They are surrounded by information processing style which is again surrounded by learning preferences (choice of learning environment) on the onion surface. Later Claxton and Murell added the outer surface layer of social interaction preference. Stability of the above individual layers decreases from center to surface. For implementation

of research on learning styles, Curry has used various inventories, for example, Kolb's Learning Styles Inventory (LSI) or Witkin's Embedded Figures Test (Curry, 1991).

### **2.2.2 Kolb's model of experiential learning**

Another extensively used model of learning styles proposing a four-stage hypothetical learning cycle was developed by Kolb. Learners start with undergoing concrete experience followed by reflective observation (divergent students with many solutions to problems). Then they employ abstract conceptualization. The space between the former and the latter represents a preference for conceptual and analytical thinking and assimilation procedures. Convergent students combine abstract conceptualization and active experimentation. Trial-and-error learning leads to the final step – reflective observation with evaluation of acquired theoretical knowledge. Learning styles change in the course of time. In order to investigate learning styles, Kolb developed the LSI (Kolb, 1984).

### **2.2.3 Dunns' multidimensional model**

The widely used multidimensional model implemented by American educationalists R. and K. Dunn (Dunn & Shea, 1991) considers the following groups of factors: (a) the environment comprising light, sound, temperature, and room equipment factors; (b) personal emotions including motivation, persistence, responsibility, and the need to learn a student's own way; (c) sociological aspects like team or individual learning; (d) physiological characteristics represented by perception aspects, energy levels during the day, food intake, and the need of motion; and (e) ways of processing knowledge including the global versus analytical approach, use of left or right hemispheres, and impulsivity or reflectivity. R. and K. Dunn developed presently intensively used Productivity Environmental Preference Survey (PEPS) intended for university students. It represents a version of Learning Style Inventory (LSI) for primary school pupils. Existence of the above reflects a change of learning styles in relation to age.

### **2.2.4 Vermunt's constructivist model for university students**

A worthy inspiration for application in language learning is expressed by a constructivist model aimed at university students (Vermunt 1996, 1998). Shaping this model, Vermunt drew on Kolb's, Honey and Mumford's, and Entwistle's works. Vermunt's model uniquely combines the four following elements: (a) strategies for cognitive processing representing mainly awareness of aims and objectives; (b) regulation strategies meaning monitoring of learning; (c) study motivations; and (d) learning orientations expressing ways of learners' perception of the learning process. Combinations of learning factors represent the four following individu-

al learning styles: (a) the undirected one with developed cooperation, external stimulation of learning by teachers, and ambivalent motivation; (b) the reproduction directed one used by students employing both reproduction without understanding rather than production and relying on external regulation by teachers; (c) meaning directed students develop gradually deep processing study approach, they build relations between individual pieces of information and also employ self-regulation; and (d) application directed students focus on practical everyday life oriented information and seek relations between matters discussed at university and real life. The above learning styles can change both with time and under influence of learning environment (Vermetten et al., 1999, p. 226).

### **2.3 Models of Learning Styles and Language Learning**

Two basic approaches in the use of learning styles models have been applied. The first one operates with general models of learning styles applied in language teaching. The other one emphasizes development of particular models of learning styles based on the characteristics of language learning process. At first the former approach is discussed.

provide information applicable for practice, comments on individual learning styles models are completed with results of research studies employing them.

#### **2.3.1 General models of learning styles applied in language learning**

The Dunns' multidimensional learning styles model, especially its perception and sociological factors, represents the most frequently employed one. A study implemented by an American scholar, Rocheford (2003) in a community college, concentrated on visual, tactile, auditory, and kinaesthetic types of students, and on team learning or learning with the support of teachers. After the administration of the PEPS inventory (see above), the author evaluated influence of learning-style-based materials and found their positive effect on the performance of students during training in writing skills. The model comprises a spectrum of factors related to language learning process which has led to its quite intensive application. Reflecting the latest views of language learning, an addition of some cognition related factors could enhance its ability to monitor language learning thoroughly.

The Kolb's model of experiential learning represents another general model of learning styles in use. Jones, Reichard, and Moukhtari (2003) found that learning styles employed by students of English, sciences, humanities, and mathematics differed. To a limited extent, students preferred learning through active experimentation when they learned English. Regarding a concrete experience mode, English and social studies students scored higher than most of the others. Many students proved to be divergers in English. High achievement in English was typical for assimilators.

Several general learning styles models are classified by an American researcher, Reid (as cited in Finch, 2000), in the following way:

1. *Cognitive Learning Styles*: Field Independent-Dependent Learning Styles (FI/D); Analytic-Global Learning Styles; Reflective-Impulsive Learning Styles.
2. *Sensory Styles*: Perceptual Learning Styles (Auditory Learners, Visual Learners, Tactile Learners, Kinaesthetic Learners, and Haptic Learners); Environmental Learning Styles (Physical Learners, Sociological Learners).
3. *Personality Learning Styles (Affective-Temperament Styles)*: Myers-Briggs Temperament Styles (Extroversion-Introversion, Sensing-Perception, Thinking-Feeling, Judging-Perceiving); Tolerance of Ambiguity Styles (Tolerant Learners-Intolerant Learners); Right- and Left-Hemisphere Learners.

Some of them served as the base for models developed specifically for description of language learning process. They are discussed hereafter.

### **2.3.2 Models of learning styles developed to study language learning**

After a brief excursion to the vast ocean of general learning styles models, those shaped by specialists in the field of language learning are described further. Ehrman and Oxford (1990, p. 311) distinguish cognitive and interactional patterns which affect the ways students perceive, remember, and think; Reid (1999) describes preferred or habitual patterns of mental functioning and dealing with new information.

Reid (1987) developed a learning styles perception preferences model aimed at EFL learners. It reflects comments of linguists, teachers, and English learners. The research instrument shaped to study the model, Perceptual Learning Style Preference Questionnaire (PLSPQ), is comprised of 30 questions in the form of Likert scales addressing visual, auditory, kinaesthetic, tactile, and individual/group learning preferences. The PLSPQ Appendix enables one to relate a learning style with age, sex, subject of study, length of stay in the USA, and native/non-native speaker. In a study (Reid, 1999), students often showed a strong preference for kinaesthetic and tactile style and negative preference for group learning. Students with higher TOEFL scores explored learning styles similar to those used by native speakers.

The model reflects traditional mostly perception preferences based approach. It does not consider cognitive factors.

In a California study (Park, 2002), the author administered the PLSPQ inventory to Armenian, Mexican, Hmong, Korean, and Vietnamese ESL learners, students of American secondary schools. All the ethnic groups preferred kinaesthetic and tactile styles. Many students across all the groups prioritized visual style. Korean

and Armenian students preferred individual learning; the other students favored learning in groups. Students employing visual and independent learning showed higher achievement. The highest achieving students gave preference to individual learning; losers favored learning in groups. The author recommends training language students in self-regulation.

An extension of PLSPQ is represented by a three dimensional learning style model with the following dimensions: the individual aspect including visual preference employed in text reading, the group factor – role playing and doing experiments including audio and kinaesthetic preference and the project dimension with tactile, visual and kinaesthetic preferences comprising, for example, reading instructions (Wintergerst, DeCapua, & Itzen, 2001).

Another model developed by Oxford in collaboration with Hollaway and Horton-Murillo (1992) distinguishes the following dimensions of learning styles important for English students in tertiary sphere: (a) visual, auditory or hands-on that expresses combination of tactile and kinaesthetic aspects; (b) extroverted or introverted; (c) intuitive-random or concrete-sequential; (d) open or closure oriented; (e) global or analytical; (f) field dependent or independent; (g) impulsive or reflective; and (h) feeling or thinking. Impulsive tertiary sphere students are prone to accept hypotheses and mistakes in an undiscerning way. Students with developed intuitive-random dimension exert creative approach and are able to guess the meaning of unknown words. They anticipate stories when reading and listening and they also use other compensation strategies for further language learning. Concrete-sequential students prefer a combination of sound, sight, movement, and touch applied in concrete sequence. If a teacher interrupts a planned topic by an anecdote, the student feels distressed by lack of continuity. Concrete-sequential students also demand full information and they avoid compensation strategies that ask for creativity (Oxford, et al., 1992, p. 443). Tactile and kinaesthetic students need frequent breaks, playing games, performing drama, and doing physical activities. Visual students require a complement of oral training with visual incentives that are not essential for auditory students. The author recommends language teachers to be aware of both tertiary students learning characteristics and the necessity to accommodate specific aspects of individual cultures.

Later on, Oxford reduced the number of learning styles dimensions and developed a research instrument called Style Analysis Survey (SAS) aimed at language learning style investigation. SAS comprises (a) visual, auditory or practical, (b) extroverted or introverted, (c) intuitively or concretely sequential dimensions of learning styles (Carson & Longhini, 2002).

Oxford has also focused on learning strategies and shaped Strategy inventory for language learning (SILL); it has widely been used by many researchers (Oxford & Burry-Stock, 1995). Both ESL and EFL versions and a version for native speak-



ers have been developed. The SILL groups strategies into the following six categories: cognitive, metacognitive, memory-oriented, affective, social, and compensation ones. Among all the SILL entries, the metacognitive items are the most numerous ones, which represents a rather scarce application of educational psychology findings aimed at teacher independent life-long language learning. R. L. Oxford recommends focusing research on social, affective, intellectual, and metacognitive aspects of learning along with training students in use of strategies. Combination of specific language learning compensation strategies with metacognitive aspects represents a distinctive feature of the Oxford's model. Later on, Oxford introduced a three dimensional Self-Regulation Model of Language Learning that explores cognitive, affective and sociocultural-interactive aspects (Oxford, 2011).

To summarize, practical experience with applications of learning styles, rather than basic research done on them, has become a subject of journal articles. Those focused on basic research of learning styles are rather rare. Published articles often concentrate on accommodation of English classes to dimensions of individual learning style models which, of course, could represent a good source of teaching inspiration.

Studies on language learning styles often focus on their perceptual aspects. Cognitive and life-long education aspects have rarely become subjects of discussion.

Finally, it can be concluded that both general and specific models of learning styles are used to study the process of language learning; the general ones prevail.

### **3 Recommendations and proposals**

#### **3.1 Classroom Implications**

This section proposes navigation information necessary to sail the above discussed ocean of learning styles towards the islands of their proper support, and also comments on the meteo-psychological situation over the ocean. It also suggests directions for both empirical and theoretical research.

The first note concentrates on necessity of teachers and learners being aware of learning styles and on their importance for effective process of language learning. A myth suggesting that styles are solely teachers' concern has become quite widespread. Nevertheless, many educationalists recommend letting students be aware of ways of learning (e.g. Green & Oxford, 1995) so that they can profit from the use of those beneficial ones. Information about the existence of a spectrum of styles extends their chance to master language effectively. However, the use of diverse modes of learning does not necessarily mean success if students do not master them properly. Tseng et al. (2006) point out the idea that what matters is quality, not quantity. According to Ehrman, Leaver, and Oxford (2003, p. 315) learners might use many strategies still in a random, unconnected, and uncon-

trolled manner. Moreover, making students aware is not enough since not all students can develop sufficient scale of learning modes by themselves, so promotion of their implementation and training students in their proper use should be incorporated into language course curricula. Training in various ways of language learning and their informed use can lead to a satisfactory extension of language competence.

To support proper development of learning styles, teachers should be able to consider a proper model, which is not easy because of their number and certain fuzziness in the field. The variety of general models applied in language learning demonstrates heterogeneity as regards the view of main aspects of language learning process. Both general and subject specific models of learning styles have been used for the study of language learning process with the general ones prevailing.

The attempt to apply manifold learning styles resembles a dubious situation in educational psychology with many models in use. There is probably not the single best model. When deciding which one or ones to stick to, several factors should be taken into account: aspects like age or language proficiency might play a significant role. Some models of learning styles are designed for specific target learners; Oxford's first model aimed at tertiary sphere students of English, serves as an example of such a model. Many models are shaped either universally or they distinguish individual tools according to age and competence. The Dunns' Productivity Environmental Preference Survey (PEPS) intended for university students represents a version of Learning Style Inventory (LSI) for primary school pupils. Teaching styles corresponding to individual models might represent another aspect of choice. Some teachers might follow the perception based models (e.g., the Dunns' ones); others could adhere to the cognition based ones (e.g., Kolb's experiential learning).

Gender dependence of some learning styles might also play a significant role. A study by Green and Oxford (1995) classified men as global learners; women paid greater attention to rather affective strategies and to strategies expressing sociability.

Choice of a model can be influenced by properties of learning environment that could either support or suppress the use of proper styles. Providing much information to be chosen from, the Internet learning environment might show capacity to promote (a) independent learning, (b) deep learning styles, and (c) self-regulation (Fišerová, 2006). A study showed problems with the use of SILL in a computer environment due to employed strategies different than the supposed ones because of specificity of the learning environment (Smith, 2000, p. 415).

A different cultural context represents another particularity of learning influencing the choice of a proper model. All students with Armenian, Mexican, Hmong, Korean, and Vietnamese cultural contexts in a study by Park employing Reid's PLSQ tool (2002) preferred kinesthetic and tactile styles. Korean and Armenian students fancied individual learning, though the other students appreciated learning in groups. The choice of a proper model might also be driven by its reflection of this factor.

In conclusion, teachers are advised to consider all relevant aspects to adhere to suitable learning style models.

### **3.2 Should Teachers Change Students' Learning Styles?**

The next question to be discussed is necessity to change learning styles and strategies. The styles might be more difficult to be adapted because of their complexity. There might be various views of the problem. Most probably, stability of learning styles is based on their structure, aspects, and factors they comprise (Cassidy, 2004). Some learning styles, such as perception ones, are not supposed to be prone to change: they are characteristic for individual learners. Some others might adapt to learning environment, learning demands or age. Learning environment or requirements, such as admission to a university, might cause a conflict between the modes employed up to now, which could lead to their change (Vermetten et al., 1999). Teachers could ask themselves if they should influence the ways students learn. If there is a big conflict between the modes students employ and learning requirements leading to low achievement, students could be directed to use more effective ways of learning. If their learning styles and strategies are not considered proper ones and learners still can achieve results satisfactory enough, they may draw on their current styles (Mares, 1998). The author suggests letting students experience a scale of proper styles to test how they can improve their learning.

### **3.3 Suggestions for Future Research and Learning Conceptions**

This subchapter brings readers to an island of research that, in future, could be extended by more land emerging in specific directions.

Considering recent publications, eagerness to implement practical aspects prevails over enthusiasm devoted to basic research on language learning, styles and strategies. Many studies have submitted practical ideas on implementation of learning styles models since some educators understand development of language teaching as solving practical problems or they concentrate on empirical research. As far as the incentives for further development of methodology are concerned, a noticeable discrepancy between the points of view of in-service teachers and those involved in research is apparent. Some of the former ones consider mostly practical

everyday experience based solely on language learning methodology, while the latter ones are more prone to seek substantial inspiration in general pedagogy and psychology. However, educational psychologists might implement research inspired by the stimuli emerging from common language learning characteristics. Probably further investigation of the process of language learning enriched with empirical experience could provide information on new factors that might become the base for dimensions of new specific learning styles models aimed at language learning. Alternatively, taking some general pedagogy characteristics into consideration can extend the scale of language learning models oriented mostly on perception, socialization, and affective or motivation aspects.

### **3.4 Comments on Life-Long Enhancement of Language Competence**

Based on the above notes on effective and flexible application of educational psychology findings in everyday learning practice, the need to enhance language competence over a lifetime should be commented on. As stated in the introductory section, nowadays a vast majority of in-service staff need to accommodate their language knowledge to requirements of their specialized jobs. To be able to manage the above, they should know how to implement and control teacher-independent process of language learning. Application of concepts of self-regulation and metacognition shaped by educational psychologists might support capacity of in-service alumni to enhance their language competence. Comparing models of learning styles and strategies, the latter ones have been more oriented on metacognition and self-regulation. Some examples like Oxford's SILL with the highest number of metacognitive items and the work of Tseng et al. (2006) on a self-regulation capacity measurement tool evidence researchers' awareness of the self-regulation and metacognition concepts. Cohen (Cohen & Dörnyei 2002; Oxford 2001) elaborated a detailed educational system uniting process of language learning with training of strategies; the system is worked out into five steps of strategy preparation, awareness-raising, training, practice, and finally personalization.

Considering metacognition, Vermunt's model can serve as an example of a very limited number of general learning style models focused on self-regulation that have been used in language learning. The concrete-sequential dimensions of Oxford's model loosely connected to the concepts discussed might also rank among the metacognition oriented ones. As far as the investigation of metacognition and self-regulation is concerned, research on importance of metacognitive strategies for the development of reading skills has been launched (e.g., Dhieb-Henia, 2003; Fung et al., 2003). Systematical training of metacognitive strategies in all ages and proficiencies could improve the chance to advance achievements. Life-long enhancement of language proficiency will require teachers to provide satisfactory learning modes imposing shift of learning responsibility towards learners.

As a consequence, all the language teachers are advised to be aware of life-long learning requirements.

A closer connection between research focused on language learning theory, educational psychology, pedagogy and language learning methodology has become inevitable.

Cohen and White (2007, p. 187) comment on intentional use of language learning strategies. They state that informed language learners understand and know how to make the best use of different components of language instruction. With the respect to importance of meta-cognitive strategies and self-regulation for life-long learning, the author suggests that in-service staff will profit from being trained in the use of proper self-regulation and metacognition related styles and strategies in university language courses. The use of appropriate aims such as dictionaries, glossaries, internet materials, phrase glossaries, and so forth should be supported.

There might be a call for introduction of a model considering specific factors characteristic for language learning which would be extended by metacognitive and self-regulation dimensions, the fruit of time-consuming efforts of both researchers in the fields of language learning and educational psychologists.

## **4 Conclusions**

In summary, both general and specific models of learning styles have been used for the study of language learning process with the general ones prevailing.

Making language learners aware of learning styles and strategies and also training their use is recommended (e.g., Green & Oxford, 1995). What counts is quality of mastering, not quantity of strategies used (Tseng et al., 2006). Among students with low achievement, learning modes could be changed in cases of a big conflict between the ones students employ and learning requirements. If the learning styles and strategies are not considered proper and learners still can achieve results satisfactory enough, they may be preserved (Mares, 1998).

Some major aspects are suggested to be taken into consideration when concentrating on a proper model of learning styles: (a) age or language competence; (b) cultural background; (c) gender; and (d) learning environment etc.

Research and interest in the field of learning styles and strategies is recommended to be oriented on a closer connection between everyday language teaching practice and theoretical background, directing thus practitioners towards the area of educational psychology. Some further investigation on specifics of language learning, or the application of those already known ones, could lead to implementation of new specific language learning styles models. Combination of existing ones, or of their aspects, with metacognitive factors represents another challenge.

Implementation of both metacognitive aspects and self-regulation into university language lessons can help in-service alumni to manage life-long enhancement of language competence then.

The author suggests language learning methodology to become more open to educational psychology findings. She hopes that in future we will experience more events like the May 2014 conference in Graz, Austria, called “Matters of the Mind: Psychology of Language Learning” dealing with topics such as autonomy (related to self-regulation), learning strategies, metacognition, and individual differences that would emphasize their relationship; such an interconnection of language learning methodology and general educational science sounds promising.

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