

Some Discussions on Static and Dynamic Spatial Expressions in Czech and Chinese



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ABSTRACT:

This study aims to present a comprehensive overview on Taiwanese Chinese-speaking students' acquisition of static and dynamic spatial expressions in the Czech language, and to investigate the transfer and interference from their L1. It is assumed that this study can not only present and compare how these two languages express the spatial expressions, but also propose how to solve obstacles in L2 acquisition.

This study will apply not only a qualitative but also a quantitative contrastive study of spatial expressions in Czech and Chinese, in an attempt to find out all the related patterns developed. This requires empirical analysis of some databases of authentic texts, mainly the error evidence provided during SLA. With the benefit of this insight, i.e. the typical error patterns found in learners' interlanguage, a more complete interpretation of the semantic concepts in the target languages is to be concluded.

KEY WORDS:

spatial expressions, second-language acquisition, Czech, Chinese

1. INTRODUCTION

Languages differ in their structuring of the spatial world (Talmy, 2000). According to Levinson (2003, p. 690), different languages have different ways of expressing spatial relations, i.e. of explaining and describing where an object is, or explaining the spatial characteristics of such an object. For the spatial expressions in languages, there are many systematic schemas related, whilst the languages have different schemas which seldom match each other completely. According to Lyons (1977, p. 694), space is used to identify location, or positional/static relation. Moreover, space may determine not only location, but also locomotion, or directional/dynamic relation. It is not easy to specify spatial expressions clearly in one language, because it is necessary to apply different dimensions. As a result, spatial expressions in second-language acquisition (SLA) normally become one of the main obstacles for language learners.

Through the process of SLA, some conceptual categories of L1 and L2 match completely, but some conceptual categories are only partially consistent, or even totally different. The first step in learning a L2 is to understand the degree of consistency of these concepts and the conceptual relations (Clark, 2005, p. 461). On the other hand, the understanding and comparison of the differences between the conceptual categories in L1 and L2 can help SLA, and at the same time also highlights linguistic typological differences between these two languages. Therefore, it is assumed that the contrastive analysis in this study can not only present and compare the spatial expressions in



Czech and Chinese, but also describe the similarities and dissimilarities between L1 and L2. In the following, I will first illustrate the definition of spatial expressions and demonstrate the schemas applied in this study. Second, the methodology adopted in this study will be introduced. Third, I will focus on and examine the Chinese-speaking Taiwanese students' acquisition of Czech as L2, in order to understand the strength of the influence of L1 preferences for the spatial expressions on the acquisition of Czech as their second language, and will summarize the language data collected, especially the error patterns in their L2. Lastly, the conclusion will be presented.

2. SPATIAL EXPRESSIONS

“What sets humans apart from other species is our ability to express spatial experience through language(s)” (Landau & Jackendoff, 1993, p. 217). According to Landau & Gleitman (1985), spatial expressions refer to the encoding of the geometric properties of objects in the world and their spatial relationships. See Figure 1.

In Figure 1, the external input of spatial information can be taken as information from vision, audition and the haptic system, which then provides information to the motor system and language. Furthermore, language of space will concern those words and simple phrases that encode the spatial expressions, which include objects, places and their relations.

As Herzog (1995, p. 2) indicates, “natural language provides a great variety of expressions referring to space.” There are many related systematic patterns of spatial expressions in languages. In English, there are 151 spatial senses expressed by 78 prepositions (Litkowski & Hargraves, 2006). In Chinese, there are supposed to be 15 locative particles used for spatial expressions (Li & Thompson, 1981). In German, several lexical categories like nouns, adverbs, adjectives and verbs contribute to such expressions, but prepositions in their spatial use are likely to be the most important means for conveying spatial information (Wunderlich & Herweg, 1991).

Furthermore, as mentioned in the first section, space is used not only to identify the location, or static relation, but also locomotion, or dynamic relation (Lyons, 1977, p. 694). A static relationship refers to the relationship between the entity to be located and the reference object(s), and a dynamic relationship is presented through the specification of the source, the goal, or the path of a directional motion (Herzog, 1995, p. 6). There are already abundant typological studies focused on the static and dynamic expressions across languages. One of them is Talmy's cognitive-semantic **FIGURE-MOVE-PATH-GROUND** dynamic characterization (Talmy, 1975, 1983, 1985, 2000). According to Talmy, there are four internal components of a dynamic/motion event, which are Figure, Move, Path and Ground. The Figure and Ground belong to a conceptual pair: “The Figure is a moving or conceptually movable object whose path or site is at issue. The Ground is a reference frame, or a reference object stationary within a reference frame, with respect to which the Figure's path or site is characterized” (Talmy, 2000, p. 185). Based on Path, Talmy further proposed his viewpoints on language typology. Talmy (1985, 1991, 2000) proposed verb-framed languages (V-languages) and satellite-framed languages (S-languages). He tried to

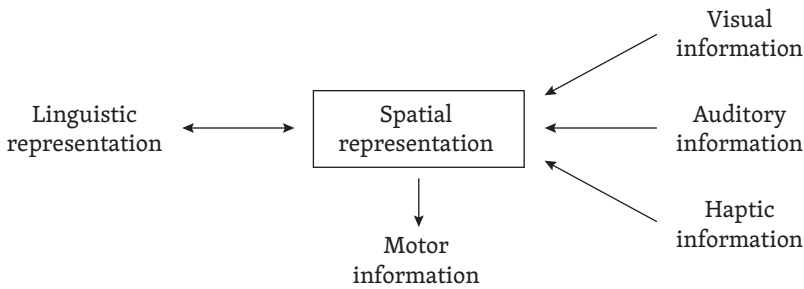


FIGURE 1: Spatial representation (adapted from Landau & Jackendoff, 1993, p. 218).

categorize languages based on their expressions of motion events. The formulations of V-languages and S-languages are shown in the following:

V-language: Path Verb + Manner Adverb

S-language: Path satellite + Manner Verb

V-languages express Path of motion events mainly with independent verbs. Spanish, French, Turkish and Italian, for example, belong to V-languages. S-languages express Path with satellite elements, such as affixes or prepositional phrases. English, Russian, Czech and German belong to S-languages. Originally, Talmy classified Chinese as an S-language, however this argument was challenged many times (Tai, 2003; Lamarre, 2003). Slobin (2004, p. 219) later proposed a third language type based on Talmy's proposal, which is equipollently framed languages, including serial verb languages and macro-event languages. Their formulations are shown below:

Serial verb language: Path Verb + Manner Verb

Macro-event language: [Path Affix + Manner Affix] Verb

According to Slobin, Chinese belongs to serial verb languages, which express the path of motion events with the serial verbal constructions (*ibid.*, p. 228; Huang & Tanangkingsing, 2005; Chui, 2009).

In the following, I am going to present the spatial expressions in Chinese and in Czech, and then, through the error analysis of the data collected, to investigate the typological differences between these two languages.

3. SPATIAL EXPRESSIONS IN CHINESE AND CZECH

3.1 SPATIAL EXPRESSIONS IN CHINESE

In Chinese, spatial expressions can be classified into the static specification, which can be exemplified by *zai...li* 'in', or *zai...shang* 'on', and the dynamic specification, which can be exemplified by *wong...shang* 'going upward' or *wong...qian* 'going



FIGURE 2: An example of static and dynamic expressions.

forward'. In other words, Chinese uses a preposition, such as *zai* 'to be located', along with a localizer, such as *li* 'in; interior' and *shang* 'on; up', to express spatial static relations. For the dynamic relations, verbal elements are applied in Chinese, such as the predicate *wang* 'toward', which is also regarded as a path preposition, and the localizers *shang* 'above' and *qian* 'front'.

The localizers in Chinese are used to denote the source, path, goal and the place where the trajectory is located. For example, the localizer *li* 'in; interior' is used to denote the interior of the landmark, and *shang* 'on; up' is used to denote the surface of the landmark (Miao, 2017, p. 22). Let us take the situation in Figure 2 as an example.

When Figure 2 refers to a static expression, it might be described in Chinese as shown in (1).

- (1) *zai zhuozi shang (mian)*
 at table on; up (surface)
 'to be on [the] table'

When Figure 2 presents a dynamic expression, it might be described in Chinese as shown in (2).

- (2) *fang dao zhuozi shang (qu)*
 put to table on; up (go)
 'put (it) to the above of table'

In the examples (1) and (2), the spatial relationships are expressed through a system of adpositions, such as the combination of *zai* 'at; to be located' or *dao* 'to' with a localizer or locative particles, such as *shang* 'on; up', *mian* 'surface' or *qu* 'go', to attribute a focal object. These adpositions are frequently used to represent time, space, boundaries and/or conditions of an ongoing action or status (Liu et al., 1996, p. 280). In other words, Chinese applies a double system of spatial expression: a limited system of locative prepositions is used in combination with localizers to express the spatial static relationships. For the dynamic relationships, path prepositions are used

in combination with either locative particles or localizers. According to Liu (2008, p. 42), “Chinese as a whole is a ‘caseless’ language. All the meanings and functions indicated by the means of morphological cases in other languages are expressed in this language by analytical means or simply left unmarked. This caseless state also holds true in spatial category.”



3.2 SPATIAL EXPRESSIONS IN CZECH

According to Čermák (1996, 2010), one of the meanings expressed by Czech prepositions is spatial specification, which is consistent with the argument proposed by Oravec (1968) that prepositions have a significant spatial meaning. Čermák (1996) also points out that the correlation of the prepositional and case systems can imply various meanings, and one of them refers to the spatial specification. As mentioned in other grammatical references, such as *Příruční mluvnice češtiny* (2003, pp. 342–345) and *Mluvnice současné češtiny* (2010, pp. 283–288), Czech prepositions are generally classified based on their connection to the case system. Namely the directional/dynamic meaning can be expressed by prepositions associated with the genitive, dative and accusative cases of the head noun, and the local/static meaning can be expressed by prepositions with locative and instrumental cases. Furthermore, Hirschová (2007, p. 191) points out that the specification of spatial relations in Czech is mostly distributed over the whole sentence, not only within the prepositional phrases. Verbal affixes and related prepositions are utilized, plus the case system of the head noun. Let us take the same situation shown in Figure 2 as an example.

When Figure 2 refers to a static expression, it might be described in Czech as shown in (3).

- (3) *Byl na stole.*
 be.3PERS,SG,PAST on table.SG,LOC
 ‘(It) was on (the) table.’

When Figure 2 refers to a dynamic expression, it might be described in Czech as shown in (4).

- (4) *Položila to na stůl.*
 put.3PERS,SG,PAST at table.SG,ACC
 ‘(She) put it on (the) table.’

In the example (3), the static expression is presented by the preposition *na* ‘on’ associated with the locative case of the head noun *stůl* ‘table’. The dynamic expression in the example (4) is distributed over the verbal prefix *po-* of *položila* ‘put’ and the related prepositional phrase, which utilizes the preposition *na* ‘to; onto’ with the accusative case of the head noun *stůl* ‘table’.

In Czech, both positional and directional spatial relations can be expressed by prepositional phrases. Furthermore, the description of spatial relations can be seen as multi-dimensional since the semantics of lexical items depending on prepositions



as well as the semantics of verbs modified by affixes represent an important semantic contribution to the spatial description.

To sum up, spatial relations in Czech and Chinese are expressed in a quite different way. Both positional and directional spatial relations in Czech can be identified by prepositional phrases and further associated with verbal affixes. However, in Chinese they can be expressed either by locative particles or localizers, or by the co-occurrence of spatial prepositions. In the following section, the data collected in this study will be presented and investigated.

4. DATA COLLECTION

The informants in this study are Taiwanese Chinese-speaking students who have been learning the Czech language for at least one year and the majority is at a primary intermediate level or higher; on average, they have 6–8 hours of Czech courses per week. For detailed information about the informants, please see Table 1.

Years of learning Czech	One year	Two years	Three years	Total
Number of informants	12	19	12	43

TABLE 1: Summary of informant background.

The total number of informants in this study is 43, with 12 of them having studied Czech for one year, 19 for two years and 12 for three years. The data were collected using a series of pictures (see Figure 3), and a video (see Figure 4). The informants were asked to describe the event(s) displayed in the pictures and the video in a written description in Czech. The data has uncovered inappropriate usage as well as successfully acquired usage involving spatial expression in Czech. In the following, the data will be presented and then investigated. Furthermore, the failure of the Chinese learners of Czech to understand the spatial semantic usage in Czech will be discussed.

4.1 DATA SOURCE I

The first data source includes six pictures. The first row in Figure 3 contains three pictures which emphasize the GOAL of the event, while the pictures in the second row emphasize the SOURCE, according to Lakusta, Spinelli & Garcia (2017, p. 177). The process of data collection was carried out as follows. First, I showed the pictures in Figure 3 to native Czechs and also Taiwanese to collect their description of the pictures in their L1. Three native Czechs and three Taiwanese participated in this part. The collected data is in written form only. Then, I showed the same pictures to the Taiwanese students who are learning Czech at university. After being shown the pictures, each student had 20 minutes to write down their description of the pictures in Czech. The data will be profiled and shown in the following section.

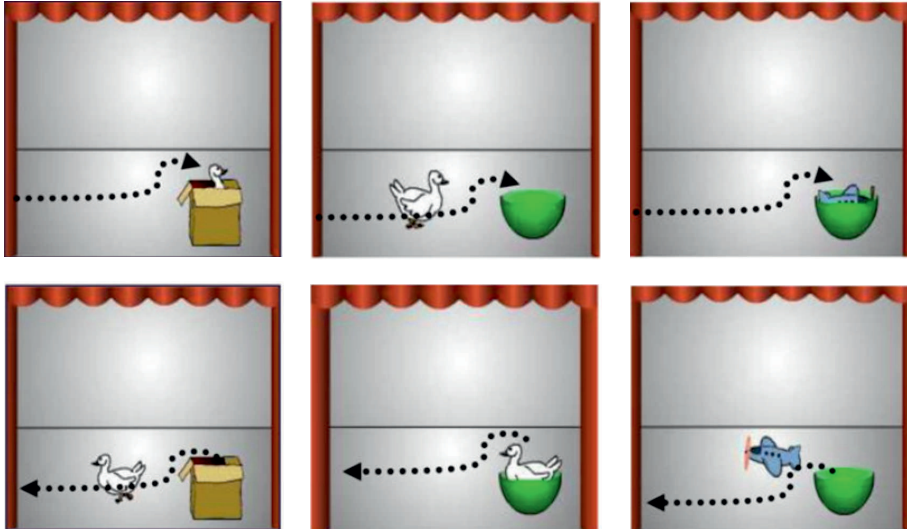


FIGURE 3: GOAL and SOURCE expressions of events (Lakusta, Spinelli & Garcia, 2017, p. 177).



FIGURE 4: Video of Pluto — *Bubble Bee* (Disney, 2015).

4.2 DATA SOURCE II

The second data source was a 7-minute video shown to the informants (see Figure 4). The video was muted and shown without any subtitles. It is a short clip of a bee which intends to fly into a vending machine through a tiny coin slot. I regard it as a simple motion event with an emphasis on the PATH. The process of data collection starts from showing this video to the Czech natives and then to the Taiwanese students. After they had watched the video twice, I asked them to write down where the bee is and what the bee is doing in their L1. Again, I showed the same video to the Taiwanese university students who are learning Czech (also twice), and each of them had 40 minutes to write down their description of the video in Czech. The language data will be profiled and investigated in the next section.



5. DISCUSSION

5.1 DISCUSSION BASED ON THE FIRST DATA SOURCE

I have profiled the data based on the first source into Table 2. Each row refers to how the informants describe the picture(s) they see. It is necessary to note that it is possible to have a variety of descriptions for the pictures, since the viewpoints of the informants can be very subjective.

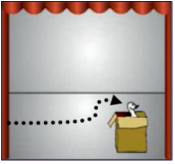
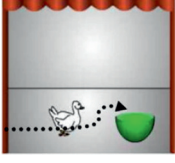
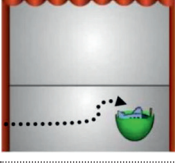

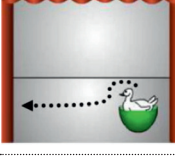
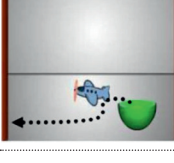
Data source		In Chinese	In Czech
	GOAL	(5) <i>wang xiang-zi zou qu.</i> (6) <i>zou jin xiang-zi (li).</i>	(7) <i>Leze do krabice.</i> (8) <i>Vlezla do krabice.</i>
		(9) <i>wang wan li zou qu.</i> (10) <i>zou jin wan li.</i>	(11) <i>Jde k misce.</i> (12) <i>Šla k misce.</i>
		(13) <i>wang wan li fei jin qu.</i> (14) <i>fei jin wan li.</i>	(15) <i>Vlétává do misky.</i> (16) <i>Vlétávalo do misky.</i> (17) <i>Vletělo do misky.</i> (18) <i>Vlezla do misky.</i>
	SOURCE	(19) <i>cong xiang-zi zou chu lai.</i> (20) <i>zou chu xiang-zi (li).</i>	(21) <i>Vylézá z krabice.</i> (22) <i>Vylézávala z krabice.</i> (23) <i>Vylezla z krabice.</i>
		(24) <i>cong wan li zou chu lai.</i> (25) <i>zou chu wan li.</i>	(26) <i>Vylézává z krabice.</i> (27) <i>Vylézávala z krabice.</i> (28) <i>Vylézá z krabice.</i> (29) <i>Vylezla z krabice.</i>
		(30) <i>cong wan li fei chu lai.</i> (31) <i>fei chu wan li.</i>	(32) <i>Vyletává.</i> (33) <i>Vylétávalo.</i> (34) <i>Letí z krabice.</i> (35) <i>Vyletělo z krabice.</i>

TABLE 2: Data collected based on Figure 3.



Based on the data from the Taiwanese natives in Table 2, there appear to be at least two common types of formulations to describe the dynamic relations shown in the pictures. The first type is shown in the example (5), and the other one is shown in (6).

(5) *wang xiang-zi zou qu.*
 to; toward box walk go
 '(It) walks toward to (the) box.'

(6) *zou jin xiang-zi (li).*
 walk enter box in; interior
 '(It) walks into (the) box.'

First, I would like to discuss the first type, shown in the examples (5), (9), (13) and (19), (24), (30). The dynamic relations in these examples are expressed within the verbal elements, including a co-event verb and a predicate/path verb, along with a prepositional phrase, which modifies the direction of the motion event. For example, in the example (5), *zou* 'walk' is the co-event verb, and *qu* 'go' is the path verb. The preposition *wang* 'to; toward' specifies the directional relationship with the object *xiang-zi* 'box'. The same formulations appeared in the following examples, too.

(9) *wang wan li zou qu.*
 to; toward bowl in; interior walk go
 '(It) walks toward (the) bowl.'

(13) *wang wan li fei jin qu.*
 to; toward bowl in; interior fly enter go
 '(It) flies into (the) bowl.'

(19) *cong xiang-zi zou chu lai.*
 from box walk exit come
 '(It) walks out of (the) box.'

(24) *cong wan li zou chu lai.*
 from bowl in; interior walk exit come
 '(It) walks from (the) bowl.'

(30) *cong wan li fei chu lai.*
 from bowl in; interior fly exit come
 '(It) flies from (the) bowl.'

The *fei jin* 'fly enter' in (13), *zou chu* 'walk exit' in (19) and (24), *fei chu* 'fly exit' in (30) all correspond to the formulation [Co-event verb + Path verb]. The path verbs or predicates *jin* 'enter' and *chu* 'exit' are applied to indicate the path of the motion, which exactly corresponds to Slobin's typology, in which Chinese belongs to serial verb languages. However, the expression of such motion events in Chinese is more complex.



First, path components in Chinese can be realized not only by the path verbs, such as *jin* ‘enter’, but also by prepositions, such as *wang* ‘to; toward’ in (5), (9), (13), and *cong* ‘from’ in (19), (24), (30) (Chu, 2009, p. 84). Such prepositions must be followed by a noun or a noun phrase which is the prepositional complement, and they are used to modify the direction of the event. For example, *zou* ‘walk’ is a non-scalar motion morpheme, but when it is modified by a *wang* PP, the walking event becomes scalar or directional (Lin, 2019, p. 186).

Second, the path verbs *jin* ‘enter’ and *chu* ‘exit’ are frequently compounded with *qu* ‘go’ and *lai* ‘come’ to indicate the result, co-occurring with either motion verbs or non-motion verbs. At the end of the clauses in (5), (9) and (13), there appears the verb *qu* ‘go’, which does not denote real motion, but indicates direction away from the deictic center. The verb *lai* ‘come’ in (19), (24) and (30) also does not denote real motion, but indicates direction to the deictic center. It is known that the expression of motion in Chinese is usually strongly deictic (Yin, 2011, p. 123). Chinese *lai* ‘come’ and *qu* ‘go’ are much more deictic; that is, they indicate motion along a path in terms of the location of the speaker, whether the speaker is at the start, i.e. SOURCE, or end, i.e. GOAL, of the path. The verb *lai* ‘come’ denotes motion towards the speaker or motion from the viewpoint of the subject of the sentence who is at the end destination, i.e. GOAL, of a path. In contrast, *qu* ‘go’ denotes motion away from the speaker or motion from the viewpoint of the subject of the sentence who is at the starting point, i.e. SOURCE, of a path.

Now let us look at the second type, which appears in the examples (6), (10), (14) and (20), (25), (31). In these examples, the dynamic relations are also expressed by verbal elements, but without a PP. See the details below:

(6) *zou jin xiang-zi (li).*
 walk enter box (in; interior)
 ‘(It) walks into (the) box.’

(10) *zou jin wan li.*
 walk enter bowl in; interior
 ‘(It) walks into (the) bowl.’

(14) *fei jin wan li.*
 fly enter bowl in; interior
 ‘(It) flies into (the) bowl.’

(20) *zou chu xiang-zi (li).*
 walk exit box (in; interior)
 ‘(It) walks out of (the) box.’

(25) *zou chu wan li.*
 walk exit bowl in; interior
 ‘(It) walks out of (the) bowl.’

- (31) *fei chu wan li.*
 fly exit bowl in; interior
 '(It) flies out of (the) bowl.'

The *zou jin* 'walk enter' in (6) and (10), *fei jin* 'fly enter' in (14), *zou chu* 'walk exit' in (20) and (25), *fei chu* 'fly exit' in (31) all correspond to the formulation [Co-event verb + Path verb], as mentioned previously. However, when compared with the first type of formulation, i.e. (5), (9), (13), (19), (24) and (30), there appears a so-called localizer, such as *li* 'in; interior'. In Chinese, the localizers are unstressed and suffixed on the Ground NP. Apart from their role of marking the NP as a place-word, they are applied to indicate the spatial position of the Figure relative to the Ground NP. It is necessary to note here that such a localizer is obligatory when the NP is monosyllabic in Chinese.

To briefly sum up, the *wang* PP or *cong* PP and the localizers in Chinese seem to have a similar function to the prepositions/prepositional phrases in Czech, used to indicate the spatial position of the Figure relative to the Ground NP. However, the prepositions for expressing motion events in Czech are more related to the verbs, not only limited to the Ground NP. Furthermore, the serial verb formulations in Chinese highlight the characteristics of its path expression, as opposed to the satellite characteristics of the Czech expression of motion events. Czech tends to have aspectual properties in verbs themselves to signal the degree of event realization rather than location along the path.

In the following, I profile the Czech data of the Taiwanese university students who are learning Czech, shown in Figure 5 and Figure 6 below. The horizontal axis refers to the percentage of the students who use the formulations in Czech to describe the pictures they see, which are presented on the vertical axis. In Figure 5, the formulations used by the Taiwanese students to describe GOAL expressions include static description, which refers to BE Verb + Prepositional Phrase, motion Verb + *do* PP, motion Verb + *v* PP, motion Verb + *k* PP, prefix *v*-motion Verb + *do* PP, prefix *v*-motion Verb + *z* PP, and others. In Figure 6, the formulations to describe SOURCE expressions include motion Verb + *od* PP, motion Verb + *z* PP, prefix *vy*-motion Verb + *z* PP, prefix *od*-motion Verb + *z* PP and others. It is necessary to note here that in this study I only focus on the phrase formulations of the expression patterns produced by the learners. The other errors will not be included here and will be left for future discussion.

It is shown in Figure 5 and Figure 6 that the differentiation of the Czech prepositions *do* 'to; into', *k* 'to; toward' and *v* 'in' for the GOAL expressions, and *od* '(away) from' and *z* 'out of' for the SOURCE expressions is one of the difficulties faced by the Taiwanese students in their Czech learning. Hrdlička (2000) in his study also ranked prepositions as one of the most difficult parts of speech in Czech for foreigners. According to Gehrke (2005), the Czech goal and source prepositions can be classified into six groups: *do*, *k* 'to', *k*, *vůči* 'towards', *do* 'into', *na* 'onto', *od* '(away) from', and *z* 'out of'. Although for the Taiwanese students, there are also prepositional phrases to modify the directional meaning in their L1, such as *wang* PP or *cong* PP, which are more limited in being associated solely with the head noun or NP, the prepositions in

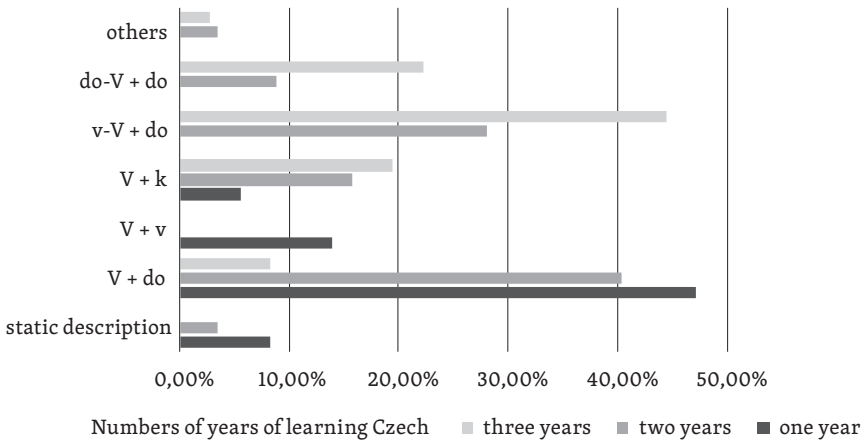


FIGURE 5: GOAL descriptions by informants based on Figure 3.

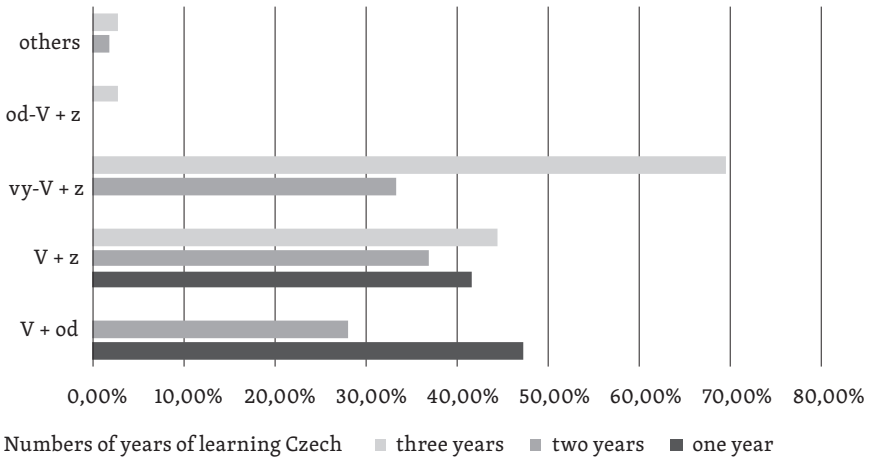


FIGURE 6: SOURCE descriptions by informants based on Figure 3.

Czech for expressing motion events are more closely tied to the verbs. Further, the usage of the localizers in these Taiwanese students' L1 also seems to interfere with their understanding of the Czech prepositions, because there is no such localizer in Czech. The use of the Czech verbal prefix is another challenge for the Taiwanese students. The students who have been learning Czech for only one year tend to use the verbs without any prefix or additional elements. This tendency might also be interpreted as the interference of their L1. In their L1, the path is expressed mainly by an event-verb accompanied by an individual path verb, however in their L2 the path is expressed by verbal satellite elements. As a result, the verbal prefix becomes another task for these students in learning to correctly express the path in Czech.

5.2 DISCUSSION BASED ON THE SECOND DATA SOURCE

The language data collected based on the second source are shown in the example (36), which is from a Taiwanese native, and in the example (37), which is from a Czech native.

(36) *xiao mi-feng neng-gou fei jin fan-mai-ji (li).*
 little bee able fly enter vending machine (inside)
 '(One) little bee can fly into (a) vending machine.'

(37) *Včelka může do automatu vletět.*
 little-bee able.3PERS,SG,PRESENT into vending machine fly-into
 '(One) little bee can fly into (a) vending machine.'

(36) seems to correspond to the formulation of [Co-event verb + Path verb + GOAL]: *fei jin fan-mai-ji (li)*. The phrase *fei jin* 'fly enter' refers to [Co-event verb + Path verb], and *fan-mai-ji (li)* 'vending machine (inside)' refers to the GOAL, with the localizer *li* 'inside' to indicate the spatial position of the Figure relative to the Ground NP *fan-mai-ji* 'vending machine'. In (37), *do automatu vletět* 'fly into (a) vending machine' corresponds to the formulation [Path Satellite + Manner Verb + GOAL]. The preposition *do* 'into' and the verbal prefix *v-* are the [Path Satellites], both of which are related to the manner verb *letět* 'fly' directly. Examples (36) and (37) show some of the main differences between Chinese and Czech in how they describe the event: first, there is a Path verb in Chinese, but in Czech PATH is expressed by a Path Satellite, i.e. a verbal prefix and a prepositional phrase. Second, GOAL in Chinese is expressed by a localizer and its head noun, but it is represented in Czech by a prepositional phrase, which includes the preposition and the head noun in a certain case. In Figure 7, I profile the language data collected from the Taiwanese students who have been learning Czech for one year, two years, and three years respectively.

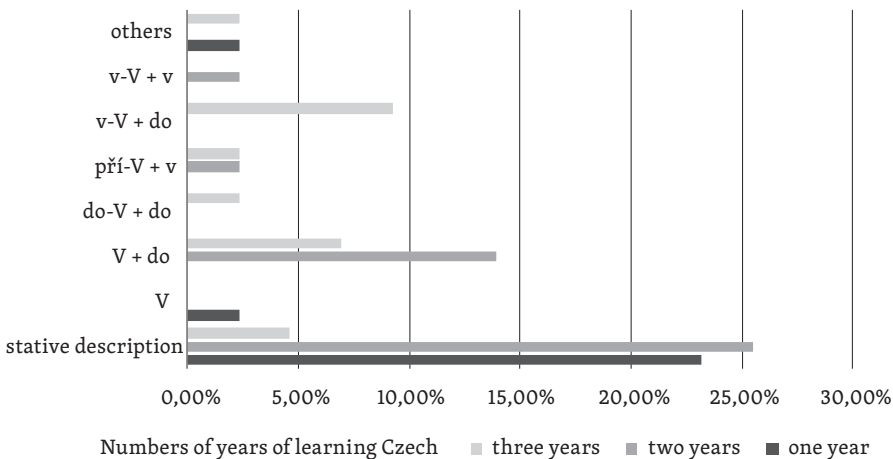


FIGURE 7: Descriptions of events by informants with different number of years of learning Czech.



The horizontal axis in Figure 7 refers to the percentage of the students who used the formulations in Czech to describe the event they saw, which are presented on the vertical axis. The formulations used by the Taiwanese students to describe the event include static description, which refers to BE Verb + Prepositional Phrase, motion Verb, motion Verb + *do* PP, prefix *do*-motion Verb + *do* PP, prefix *při*-motion Verb + *v* PP, prefix *v*-motion Verb + *do* PP, prefix *v*-motion Verb + *v* PP and others. The data reflects some interesting phenomena concerning the background of the learners. For example, there is a formulation [prefix *v*-motion Verb + *v* PP] produced by one student who has been learning Czech for two years. This particular student has Russian learning background and has been learning Russian for four years. There is probably an interference from the path expression of the Russian preposition *v* upon his or her Czech usage. In the following, I try to profile the error types produced by these Taiwanese students. See Table 3.

Years of learning Czech	Error types	%
One year	Manner Verb	100
	Path expression	91
	Stative description	83
Two years	Manner Verb	78
	Path expression	89
	Stative description	58
Three years	Manner Verb	41
	Path expression	50
	Stative description	16

TABLE 3: Types of errors made by informants.

In Table 3, it is obvious that with the increase of years of learning Czech, the Taiwanese students get more and more familiar with the usage of Czech manner verbs, and at the same time reduce their use of stative descriptions, which are relatively easier for the Taiwanese students than expressing directional meanings. However, the path expression still remains the main obstacle in their L2. In Table 4, I summarize the data provided by the Taiwanese students.

Path prefix-V + PP	V (+ PP)	static description	others
18.56 %	23.20 %	53.36 %	4.88 %

TABLE 4: Summary of the data obtained from informants.

Table 4 shows that most of the Taiwanese students apply static descriptions to describe what they see, which is not surprising, mainly due to their lack of knowledge of Czech. However, with the increase in learning years, they learn more types of expressions. The formulation [Verb + PP] is used by 23.20%, which is assumed to be an interference from their L1. In Chinese, spatial relations can be expressed by a PP, such

as *wang* PP or *cong* PP, and localizers, which seem to have a similar function as the PP in Czech. However, only 18.56% used the formulation [Path prefix-V + PP] or in short form [Path Satellite + Verb], which is the Czech formulation to express motion events. Moreover, out of the 18.56%, only 6.96% are grammatically correct. In short, the interference from L1 to L2 is apparent in the data.

6. CONCLUSION

As mentioned previously, Chinese and Czech have their own language-specific formulations or patterns for spatial expression. The data discussed in this study are applied to present a comprehensive overview of Chinese-speaking Taiwanese students' acquisition of spatial expressions in their L2, the Czech language, and to further investigate the interference from their L1. The findings provide a deeper understanding of the L1 interference on the learners' acquisition of L2 at different levels of proficiency, based on the number of years of learning L2. The findings also reveal that the degree of L2 difficulties of the Taiwanese students directly correlates with the number of years of learning. The L2 error types produced by the Taiwanese students show the obstacles in their process of L2 learning. The error types which remained in the data produced by the students who have been learning L2 for a longer time could be deduced to be the most difficult obstacle in L2 learning. In other words, such error types can be considered as the main differences between these two languages in one specific domain.

This study indicates that verbal affixes and prepositional systems in Czech are the most difficult hurdles to overcome for Taiwanese students during their learning of spatial expressions in Czech. To master the correct usage of spatial prepositions, students must first learn new lexical units and then understand the ways in which native speakers of that language express spatial relations. Moreover, the case system of the head noun modified by the spatial prepositions is also crucial. In short, in order to solve the obstacles in the process of L2 learning, it is necessary to describe and to explain the differences between the specific conceptual categories in L1 and L2 first. That means to help the learners build up conceptual relations that do not exist in their L1, and to assist the learners in mastering their target language by developing concepts. Through the process of L2 acquisition, we can not only make the process more effective, but also achieve a better understanding of the characteristics of the target languages. The present study is only preliminary, and further research is desirable. Further studies for more data and information are needed in order to produce a much more comprehensive overview of the spatial expressions among the Chinese learners of Czech.





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