The impact of consecutive interpreting on simultaneous interpreting: An empirical study

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Abstract

Some differences are evident in the sequence and intensity of consecutive (CI) and simultaneous interpreting (SI) training across various institutions. Usually, CI training precedes SI training; more sporadically, their training occurs in parallel. The literature includes the views of theorists and practitioners who advocate CI training before SI, pointing out CI's potential benefits for SI. At the same time, however, they emphasize that we do not have enough data to confirm these suppositions.

The present paper attempts to establish the correlation between CI and SI training, specifically the potential positive impact of CI on SI. The research was conducted on a sample of T&I master's students (N = 10) using several instruments – an online questionnaire, recordings of CI and SI, listeners' ratings of interpreting performance, and ratings of formal deficiencies. The results confirmed that, according to the listeners' evaluations, not only CI, but also SI performances improved over the semester. The different rates of progress in CI and SI were likely related to the CI-targeted training. The positive effect of CI on SI was also evident in the reduction of some formal deficiencies (hesitations, redundant sounds (e.g. lip smacking), and unfinished sentences). The increased frequency of some formal deficiencies (vowel/consonant lengthening, corrections, and repetitions) may be attributed to the lexical saturation of the last CI recording, the poor performance of one student, a lack of self-control, or the differences between CI and SI. The results obtained do not have general validity as the research sample was small, which could have contributed to possible distortions. Nevertheless, the findings indicate that targeted CI training can, among other things, contribute to improvement in SI skills.

1. Introduction

Interpreting, as a complex and cognitively demanding activity, requires focused and gradual, ideally intensive training. The extent and intensity of this training varies from country to country and from institution to institution. In Western European countries, for example, interpreting programmes are conducted either as two-year or one-year programmes, in the form of a specialised master's (postgraduate) course of study, such as

EMCI (Šveda 2016). In Central Europe[1], five-year, combined programmes (three-year bachelor's and two-year master's) are more common, which, according to Šveda (2016), better reflect the translation tradition as well as the realities of the translation and interpreting market in this area.

Despite these differences, there are several common features in conference interpreting programmes. One of these is the sequence of acquiring interpreting techniques. Several scholars agree that an introduction to consecutive interpreting (and sight translation) should precede simultaneous interpreting (Ilg & Lambert 1996; Déjean Le Féal 1998, In: Sawyer 2004; Gile 2005; Niska 2005). This sequence is characteristic of the Paris School's prescriptive approach and is based on the interpretive theory of interpreting, which emphasizes meaning, not words or linguistic structures. Its main proponents, Seleskovitsch & Lederer (1995), believe that after adequate mastery of consecutive interpreting skills, students can integrate all the principles they have learned and apply them to simultaneous interpreting. According to Seleskovitsch & Lederer, training in consecutive interpreting (CI) prepares students for comprehensible simultaneous interpreting (SI). Niska (2005) holds the same view when he argues that it is important to start with consecutive interpreting in conference interpreting courses. According to him, simultaneous interpreting should only be introduced after consecutive interpreting has been mastered. This is because students need to learn to listen to (and understand) the meaning of the utterance, not just translate the words. Gile (2005) attaches similar importance to training in consecutive interpreting when he argues that such training reinforces analysis and reformulation as opposed to transcoding (literal translation). Kalina (1994, 2000) has been critical of the Paris School approach. On one hand, she agrees with Seleskovitch that comprehension is a key component of interpreting and that consecutive interpreting constitutes a good preparatory exercise for simultaneous interpreting. On the other hand, however, she lists a number of exercises that are unrelated to CI but

[1] In order to define the countries of Western and Central Europe in the context of interpreter training, we can use Pöchhacker's (2021) division into the Western and Eastern traditions. The former was closely linked with Geneva and Paris, while the latter was under the influence of the Soviet School. "The countries now seen as making up Central Europe were within the Soviet sphere of influence since 1948–1949 and therefore considered Eastern European, especially after 1956 in Hungary and 1968 in Czechoslovakia. Austria had come close to this attribution but narrowly managed to avoid the fate of its neighbours to the East and North" (Pöchhacker 2021, 45).
In her thesis, Chovancová (2020) refers to six countries – Slovakia, the Czech Republic, Hungary, Poland, Austria and Slovenia – as "Central Europe" because of their common history within the Habsburg monarchy and cultural proximity. Perspectives of interpreter training from the same Central European countries are also presented in the book edited by Šveda (2021).

incorporate the specifics of simultaneous interpreting and thus provide a broader base for SI training. Gile (2009) is also aware of the role of consecutive interpreting as a diagnostic tool: based on the student's CI performance, it is possible to delineate strengths and weaknesses, especially those related to misunderstanding and lack of proficiency in the target language. Rejšková (1999) points out some problematic issues in this respect: she has encountered students who mastered consecutive interpreting perfectly, but subsequently had a problem with simultaneous interpreting. Rejšková admits that this is related to a number of factors, which she has not attempted to analyse. Thus, we do not share Déjean Le Féal's (1997, 618) statement that SI is "merely a contraction of the consecutive technique with the different phases overlapping instead of following one another". However, we agree with her that it would "seem natural to use the technique of CI as an aid in teaching SI" (Déjean Le Féal 1997, 618).

2. A brief overview of the issue under study

In addition to simultaneous interpreting, most conference interpreting programmes[2] also focus on consecutive interpreting, which, however, receives different attention at individual institutions (Gile 2005). At some, they start practicing simultaneous interpreting only after mastering consecutive interpreting; at others, there is parallel instruction in CI and SI due to the challenges related to memory management and split attention (Kalina & Barranco-Droege 2021). However, according to Gile (2005), we do not have research data to support the validity of either approach. The lack of empirical data to confirm the relevance and justification of CI for SI training has also been pointed out by Kalina (2000) and Sawyer (2004).

The rationale for practicing consecutive interpreting and the sequence of CI and SI training has also been addressed by Setton & Dawrant (2016). The authors acknowledge the fact that consecutive interpreting is overshadowed by simultaneous interpreting in large multinational institutions such as the UN or the EU, but point to its prominent position in some interpreting markets. Like the scholars we have already mentioned, they confirm the absence of solid evidence to support preferring sequential or parallel teaching of CI and SI. In their recommendations, they follow the AIIC standards and endorse sequential training, suggesting that in a two-year postgraduate course, the first year should be devoted to CI training alongside other skills and exercises, and only in the second year should SI training begin. They support their recommendation by pointing to the acquisition of several important skills.

In Slovakia, in the 2020/2021 academic year, four universities offered translation and interpreting[3] programmes. As Djovčoš & Šveda (2021) found in their survey, three of them are characterised by an established

[2] Liaison interpreting also includes training for both modes, CI and SI.
[3] As of 2019, the name philology is officially used for this field of study in Slovakia.

system in which consecutive interpreting is given priority at the bachelor's level, preceded by preparatory proseminars in interpreting, and simultaneous interpreting is emphasised at the master's level. Similar findings were reached by the scholars in their previous survey (Djovčoš & Šveda 2018). A broader perspective was provided by Chovancová (2020), who mapped the situation in the didactics of interpreting in Central Europe. She found that the European universities surveyed (in the Czech Republic, Hungary, Poland, Austria, Slovakia, and Slovenia) follow the same trend: they mostly teach consecutive interpreting during the earlier phase of interpreting training, and in the following semesters simultaneous interpreting is added to consecutive interpreting. These universities follow the AIIC recommendations and thus teach both consecutive and simultaneous interpreting. With regard to the sequence of training, the exceptions are the universities in Banská Bystrica (Slovakia) and Vienna (Austria), which teach their compulsory courses in consecutive and simultaneous interpreting in parallel. However, there are also differences among these two institutions. In Vienna, CI and SI are taught in parallel during the second and third semesters, in Banská Bystrica only during the second semester of the master's programme.

As noted above, several scholars (Kalina 2000; Sawyer 2004; Gile 2005) point to the lack of research data on the relationship between consecutive and simultaneous interpreting. Although studies are sparse, some partial findings can be mentioned. Rejšková (1999) investigated whether the performance in CI was a reliable indicator of how the student would fare in SI. The research pointed to a weak correlation between students' results on a CI exam and their results from specific SI exercises, thus indicating a potential but insignificant correlation between CI and SI. Hodáková (2021b) came to a similar conclusion when analysing students' performance in simultaneous and consecutive interpreting: the identified correlation was not statistically significant. Several studies have focused on other aspects of the relationship between consecutive and simultaneous interpreting, such as the accuracy or complexity of interpreting performances in each mode. Gile (2001) investigated the relative accuracy of simultaneous and consecutive interpreting with respect to specific difficulties. He found that consecutive interpreting was more accurate in that it produced less incomplete sentences, and simultaneous interpreting was more accurate from the standpoint of producing less digressions and unimportant modifiers. Overall, simultaneous interpreting was more accurate than consecutive interpreting, but Gile (2001) called for caution when generalizing. A quantitative comparison of the lexical features of CI and SI outputs was conducted by Lv & Liang (2018). They found out that the CI output was more simplified than the SI output, pointing to its potentially equally high or even higher cognitive load than that in SI. This finding was contrary to the other views expressed in the literature in the field. A similar conclusion was reached by Cox & Salaets (2019), whose study illustrated that interpreter trainees omitted more information when interpreting consecutively in comparison to simultaneous interpreting.

According to the scholars, this was due to the memory factor rather than the cognitive load.

Our brief overview has indicated a possible link between consecutive and simultaneous interpreting, but it has not provided enough data to confirm it unequivocally.

3. Research methodology

As previously mentioned, based on the findings presented in the literature and our experience, we were interested in examining whether there was a correlation between consecutive and simultaneous interpreting performance. We started to investigate this experimentally in the 2019/2020 winter semester as part of a KEGA[4] project, a semester when interpreting training in the master's programme was focused solely on the acquisition of consecutive interpreting skills. Our aim was to find out whether targeted CI training has a positive impact on SI, in other words, to verify whether developing CI skills has added value for developing SI skills. We decided to investigate this potential relationship through the prism of listeners' satisfaction and the quality of the formal aspect, since interpreting is a (public) service in which the formal aspect (together with the content) and the client's satisfaction are decisive factors.

3.1 Research sample

The research sample consisted of students enrolled in the elective course Consecutive Interpreting in Practice. Ten subjects participated in the research, 70% were males and 30% were females[5], and the average age was 23.2 years. They were first-year students of the master's programme in Translation and Interpreting (Philology) from several language combinations (English + French/German/Russian/Spanish) and combinations with other fields (English + History/Philosophy). Since the students had chosen the course, we assumed that they were interested and motivated to work on, develop and improve their (consecutive) interpreting skills. Our assumption was confirmed by the data on translational preferences we obtained from an online questionnaire. Three students indicated a preference for interpreting, and all three were equally inclined towards CI and SI. Five indicated an equal preference for translation and interpreting, out of which two were more inclined towards CI and three equally inclined towards CI and SI. The preferences (motivation) of these eight subjects could be seen as desirable for the research conducted, because motivation (as one of several factors) can have a positive impact on interpreting performance (Timarová & Salaets 2011). In addition, one subject stated that he was more inclined towards translation and one that he was not inclined towards either translation or interpreting.

[4] The project methodology is described in detail by Djovčoš (2020).
[5] This is an unusual distribution; usually more female students enrol in interpreting courses (Du 2020).

3.2 Methods

At the beginning of the research, students completed an **online questionnaire** through which we collected basic demographic data such as respondents' age and gender and basic information about the study programme. We also inquired about their translation and/or interpreting preferences.

To investigate students' interpreting performances, a native speaker (general American accent) recorded audio speeches for the research. Three speeches were designed for **consecutive interpreting with notes** (i.e. high consecutive) and presented general topics (dreams, animals, graffiti). Three speeches were intended for **simultaneous interpreting**, and their topics were partly related to American life and culture (skyscrapers, migration, Amish community). The students interpreted the speeches from English into Slovak (the latter being the mother tongue of almost all of them[6]) and their performances were recorded. Input variables were controlled with the intention of ensuring their neutrality and the comparability of individual speeches in duration, speech rate, accent, and lexical density. We tried to ensure that the variables corresponded to the recommendations in the literature (Čeňková 1988; Pöchhacker 2004; Djovčoš & Šveda 2018; Djovčoš, Melicherčíková & Vilímek 2021). The speeches intended for CI lasted approximately 6.5 minutes[7], the speeches intended for SI less than 10 minutes. The rate of all the speeches (177 – 201 syl/min) did not exceed 300 syllables per minute (Čeňková 1988). The number of monosyllabic words in all the speeches accounted for more than half of the words represented. Three- and multi-syllabic words constituted approximately 11 to 15%. The only variable where we observed some differences between the speeches was lexical saturation (approximately 50 – 60%). Lexically unsaturated texts are generally considered to be those below 56%[8]. The original transcripts of the speeches met this condition. However, they contained years and numbers which, for the sake of objectivity, had to be transcribed in words, thereby increasing lexical density. After this modification, two speeches appeared to be lexically saturated, the third in CI (59.7%) and the first in SI (58.4 %).

[6] Despite expectations, the student who was not a native speaker of Slovak (the target language) did not distort the results; in other words, her performance was not poor.

[7] At the end of master's programmes, students usually interpret 5-minute speeches consecutively (Bartłomiejczyk & Stachowiak-Szymczak 2021). However, EMCI final exam texts for the consecutive mode last 5 to 7 minutes (EMCI 2020).

[8] *Analyze My Writing*. (n.d.). https://www.analyzemywriting.com/. Accessed on: 10 October 2020.

3.3 Interpreting evaluation

The evaluation of interpreting performance (CI, SI) has been the subject of many studies; particularly worth noting are those based on surveys among users of interpreting services and professional interpreters (e.g. Moser 1996; Collados Aís et al. 2007; Zwischenberger & Pöchhacker 2010; Chevalier & Gile 2015). According to these surveys, respondents place more emphasis on content (semantic agreement between the original and its interpreting) than on formal criteria (delivery) (Collados Aís & García Becerra 2015). On the other hand, the importance of formal criteria in assessing quality in interpreting is highlighted by Gile (2009), who refers to the research of Collados Aís et al. (2007). These scholars found that a deficiency in one formal criterion can have a significantly negative impact on the perception of other form parameters as well as on the overall evaluation of the quality of the interpreter's output. Chevalier & Gile (2015) also confirmed the importance of the form in the evaluation of interpreting by listeners, finding that their respondents (N = 22) were more likely to comment on the form of interpreting than on the content.

In the present paper, we focused on selected formal deficiencies (hesitations, vowel/consonant lengthening, corrections, repetitions, false starts, redundant sounds e.g. lip smacking, unfinished sentences) when examining the relationship between CI and SI. We used a self-assessment sheet designed by Machová (2016), which we adapted to our own needs. The less of these deficiencies that occur, the better the evaluation. The particular categories are defined in more detail by, for example, Rennert (2010) and the VERBMOBIL[9] project.

In addition to examining the occurrence of selected formal deficiencies, we were interested in how other listeners perceived the interpretation performances. Thus, we also focused on listener satisfaction and the perceived quality of interpreting. We addressed final-year students of translation and interpreting (philology) at the bachelor's level. Given their studies in the same field, we assumed that they would be more rigorous in their evaluations than lay evaluators. 7 female students voluntarily participated in the task. We sent them detailed instructions in which we asked them to listen to the recordings and then assign scores to selected criteria (voice certainty 1 to 4, overall satisfaction with the interpretation performance 1 to 5[10]) and comment freely on certain aspects (positive perception, negative perception, other comments). As it was our intention to simulate authentic interpreting, we aimed to ensure a one-time, non-repeated reception. We therefore stressed that the evaluators were to listen

[9] *Verbmobil Project*. (n.d.) https://www.phonetik.uni-muenchen.de/forschung/Verbmobil/trllex_e_ html/projects/verbmobil.html. Accessed on: 5 August 2021.

[10] In choosing the criteria, we used the self-assessment sheet designed by Machová (2016). In further research, uniform, 5-point scales could be used for both criteria.

to each recording only once, in its entirety, and then rate it. We provided them with a total of 30 audio recordings of consecutive interpreting (10 for each round) and 30 audio recordings of simultaneous interpreting.

3.4 Procedure

The data processed in this paper were collected in the first phase of a KEGA[11] project during the course Consecutive Interpreting in Practice in the 2019/2020 winter semester. The research was anonymous, and students signed an informed consent form before the research was conducted. Students' interpreting performances were recorded three times over the semester: at the beginning, in the middle and at end of the semester. First, students interpreted the CI speech and then the SI speech. The classroom's technical equipment only allowed us to make an audio recording of the interpreting performances. The first recording was made in the first week; it was not immediately preceded by any interpreting training. The second recording was made 6 weeks later. Between the first and second recording, the students practised several exercises such as paraphrasing, speech skeleton, memory exercises, linking expressions, summarizing the main idea in one sentence, mini-summaries, note-taking and mind maps – practised first using short written texts, later through oral presentations. The third recording was made a further 6 weeks after the second. Between the second and third recording, the students practiced consecutive interpreting, mainly interpreting simple videos on various pre-specified topics from English into Slovak and, to a lesser extent, in the opposite direction, with and without notes. Before each recording, but during the particular seminar, that is without prior preparation, students were provided with a glossary with the topic of the speech and selected terminology, and as part of their preparation they could look up the meaning and the Slovak equivalents of unfamiliar phrases (on the Internet, in online dictionaries). After the recording, the students' task was to transcribe their interpreting performances in detail and accurately according to provided instructions and to assess the analysed criteria in them. They were then asked to enter their numbers in a separate table. Subsequently, the author of this paper compared the recordings of the participating students from all three rounds with their transcripts, corrected the identified deficiencies in the transcripts, and finally corrected the numbers of formal deficiencies.

4. Results

In the results, we will first look at the overall assessment of the research sample. The performances in CI and SI can be compared with each other thanks to the same evaluation criteria used. We will focus on the tendency (improvement, stagnation, deterioration) and on the relationships between each mode (CI, SI) and between the beginning and the end of the semester, i.e. the first and the third recording.

[11] KEGA 026UMB-4/2019: *Rigorous Interpreting Textbook.*

4.1 Listeners' satisfaction with interpreting

The criterion of overall satisfaction with the interpreting performance is a subjective, but essential one, since in real interpreting the listener (the client) is a crucial component of the interpreting process. Table 1 shows the descriptive statistics of all assessments in all rounds. In the second round, one SI recording was technically defective and was not available for further assessment. In the third round, one evaluator did not report the score for one SI performance. In most cases, however, we had 10 evaluations from each listener/student, a total of 70 evaluations per each round of recording and each mode (CI, SI).

Listeners (N = 7)	CI1 (N = 10)	CI2 (N = 10)	CI3 (N = 10)	SI1 (N = 10)	SI2 (N = 9)	SI3 (N = 10)
Mean	3.49	3.99	4.03	3.26	3.47	3.76
Median	3	4	4	3	3.5	4
Standard deviation	0.99	0.83	0.78	0.9	0.96	0.9
Minimum	2	2	2	2	1	1
Maximum	5	5	5	5	5	5
Count	70	70	70	70	63	69

Legend: CI1/2/3 – first/second/third round of recording CI,
SI1/2/3 – first/second/third round of recording SI

Table 1. Assessments by listeners (other students)

If we look at the mean of the sample after each recording, for both CI and SI, we see that the listeners' overall satisfaction increased between the first and last round, which means that the listeners were more satisfied with the evaluated performances from the end of the semester than with those from the beginning of the semester. We see that the assessment is higher for CI (3.49 → 3.99 → 4.03) than for SI (3.26 → 3.47 → 3.76), which is most likely related to the fact that the specific course was focused on developing CI skills and the students had no previous SI training. Another reason may be the one mentioned by Gile (2009, 165): "the effects of interpreting constraints on production are stronger in simultaneous than in consecutive, probably because of differences between the two modes, both in processing capacity management and in time constraints". The improvement over the semester, between the first and the third recording, was approximately the same for both modes (a difference of 0.54 and 0.5). Overall, the standard deviation was not high, being slightly higher for CI at the beginning of the semester and for SI at the end of the semester. We regard it as positive that during the experimental SI testing without targeted training, the listeners' overall satisfaction increased (continuously) among the three rounds of recording, which might indicate that CI training

has a positive impact on SI. At the same time, the improvement may also be related to other courses taken during the semester, such as translation seminars, because some programmes, particularly those that train both interpreters and translators, consider translator training as a pathway to interpreter training (Gile 2009). During the semester in which the research took place, all the students took two other compulsory courses: Practice of Translation and Interpreting (lecture) and Professional Translation (seminar). In addition, four of them took the elective course Translation of Literary Texts and two took the voluntary course Editorial Practice. Certain skills acquired and cultivated in these courses may also have a positive impact on interpreting performance, i.e. transferable skills[12].

In CI, there was a considerable increase in satisfaction between the first and second rounds (3.49 → 3.99), but between the second and third rounds, we observed a very low, almost zero increase (3.99 → 4.03). In general, performance improvements due to training are most pronounced in the initial stages, with later progress being less marked. Thus, a certain parallel can be observed between the training of athletes and interpreters (Djovčoš, Melicherčíková & Vilímek 2021). In addition to this factor, we suspect that the nearly identical mid- and end-of-semester CI performance ratings may have been partially due to a non-neutral input variable: specifically, the lexical saturation of the third CI speech (60%) compared to the first two speeches (50% and 54%). Although the speeches were intended as comparable, the diagnostics showed a gradual increase in the difficulty of the speeches for CI, but not for SI.

In simultaneous interpreting, the difference in scores between the beginning and the middle of the semester (3.26 → 3.47) was small, i.e. we did not observe an imaginary leap in the initial stages of training. One explanation for this is the fact that the training was not targeted at developing SI skills. Another explanation is the specifics of the SI mode compared to the CI mode. Hodáková (2021b) also found that students' SI performance was more likely to be influenced by their cognitive performance (and thus certain predispositions) than by training. However, further improvement in SI (between the second and third recordings) was slightly more pronounced (3.47 → 3.77).

Since our research was conducted on a relatively small sample of 10 students, we also decided to examine individual student performances. Table 2 presents the average scores from seven listeners for individual students as well as their translational preferences. The evaluators' assessment sheets commented on the following most common shortcomings in CI and SI: hesitations, vowel/consonant lengthening, long pauses, monotonous or bored-sounding speech, corrections, accent, uncertain voice, redundant sounds (lip smacking and sighing). In the assessments of SI, the following also appeared more often than in the assessments of CI: unnatural word order/usage, strange formulations,

[12] Djovčoš, Melicherčíková & Vilímek (2021) consider many CI skills to be transferable to the training of basic SI skills.

incorrect declension, word-level interference (English words). The specificity and complexity of SI in comparison with CI is manifested in these deficiencies. The occurrence of the identified deficiencies is also related to the fact that the students had not undergone SI training before the research.

	CI1	CI2	CI3	SI1	SI2	SI3
Student (preference)	Listeners (N = 7)			Listeners (N = 7)		
S1 (T/I) (CI/SI)	4	4.6	4.3	3.4	4	4.3
S2 (T/I) (CI)	2.6	3.7	4.1	2.9	3.1	3.5
S3 (T)	3	3.6	4.1	2.8	3	4
S4 (T/I) (CI)	4.4	4	3.4	2.9	2.5	3.1
S5 (I) (CI/SI)	2.9	3	3	2.6	3.6	3.5
S6 (T/I) (CI/SI)	4	4.1	3.7	4.1	*[13]	3.9
S7 (T/I) (CI/SI)	4.9	4.9	5	4.7	4.7	5
S8 (I) (CI/SI)	3.3	3.6	4.1	3	2.9	3.1
S9 (–)	2.7	3.9	4.6	3.3	3.7	3.6[14]
S10 (I) (CI/SI)	3.1	4.6	3.9	2.9	3.1	3.7
Mean	3.49	3.99	4.03	3.26	3.47	3.76

Legend: S1-S10 – students 1 to 10, CI1/2/3 – first/second/third round of recording CI, SI1/2/3 – first/second/third round of recording SI, listeners – average of assessments by 7 other students, T/I – equal preference for translating and interpreting, T – preference for translating, I – preference for interpreting, CI/SI – equal preference for CI and SI, CI – preference for CI, (–) – no preference

Table 2. Assessments of individual students and their translational preferences

The assessments of individual students were characterized by variability during three rounds of both CI and SI. The trend of continuous improvement in CI could be observed for four students (S2, S3, S8, S9), in SI this again applies to four students (S1, S2, S3, S10). Final improvement was characteristic of four students in CI (S1, S5, S7, S10) and five students in SI (S4, S5, S7, S8, S9). The extent of the improvement varied. Deterioration could be observed in two students in CI (S4, S6) and one student in SI (S6). Overall, improvement between the beginning and end of the semester (based on listeners' evaluations) was seen in 8 students in CI and 9 students in SI. That is, those 8 students who, according to other listeners, improved in consecutive interpreting between the beginning and end of the semester also improved in simultaneous interpreting, though they varied in the extent of improvement in each mode. Initial scores and final scores can at the same time be indicators of overall competencies, not only of students' gains in competencies. In this context, it is evident that

[13] The recording was faulty.
[14] One listener/evaluator did not report the score.

certain values were rarely observed in certain stages of training (for example very good results of S7 in CI3 and SI3).

To summarize, we can conclude that not only the evaluation of the group but also the evaluation of individual students showed that in our small sample CI training appears to contribute to improving SI skills as well. As already mentioned, other translation courses completed during the semester may have contributed to the improvement as well. However, it is clear that further cultivation of SI skills is needed.

When examining the relationship between (continuously or finally) improved performances and translational preferences, we see that most students (six in CI – S1, S2, S5, S7, S8, S10; seven in SI – S1, S2, S4, S5, S7, S8, S10) preferred either interpreting or were equally inclined to interpreting and translating. In contrast, the combined preference for translating and interpreting did not correlate with improved performances in CI for two students (S4, S6) or in SI for one student (S6). Interestingly, the student who indicated no preference (S9), as well the student who preferred translating (S3), did continuously improve. At the end of the semester they either approached or even exceeded the mean of the group in both CI and SI. Thus, with training, interpreting skills might be developed even in the absence of a preference for interpreting (motivation).

The student with the best overall scores in CI and SI (S7), who received the maximum possible score at the end of the semester, showed balanced translational preferences (equal preference for interpreting and translating, equal inclination towards CI and SI). This preference is optimal for studying T&I as well as for subsequent employment on the translation market.

Although our findings are limited to a small sample, they suggest that translational preference might be a useful (though not decisive) indicator of potential within the master's T&I programme. As the survey of students' preferences was carried out at the beginning of the master's programme, it is likely that their subsequent studies may have influenced their preferences, both regarding translational activities and individual interpreting modes. We presume that, in addition to interpreting preferences or combined preferences (motivation), other aspects should also be taken into account, such as language and rhetorical skills, cognitive skills and personality characteristics, which also contribute to overall interpreting performance. A similar view was expressed by Hodáková (2021a). At the same time, the potential positive impact of translation exercises on CI should also be considered and examined. Justification for such research is also provided by a comparison of translation and interpreting in light of the Sequential Model of translation and interpreting. At the basic level, "in both cases, translation units are processed consecutively; in both cases, some degree of comprehension must be achieved before reformulation; and in both cases, testing and decision-making are part of the process" (Gile 2009, 111).

4.2 Formal deficiencies

In the next part, we will pay attention to the occurrence of individual formal deficiencies in the interpreting performances. Hesitations and vowel/consonant lengthening are related to spontaneous speech-planning processes and are therefore also common in interpreting (Rennert 2010). Due to the common reason for their occurrence and similar nature, we decided to evaluate both shortcomings together (Table 3).

	CI1 (N = 10)		CI2 (N = 10)		CI3 (N = 10)		SI1 (N = 10)		SI2 (N = 9)		SI3 (N = 10)	
Formal deficiencies	HS	L	HS	L	HS	L	HS	L	HS	L	HS	L
Mean	31.3	4.4	11	7.5	19.7	11	26.1	5.3	13.2	2.9	17.5	5.3
Standard deviation	37.3	5.1	8.1	8.4	15.4	10.6	24.7	4.3	11.9	2.8	16.4	6.5
Minimum	0	0	0	0	0	1	1	0	1	0	0	0
Maximum	103	17	25	23	46	31	79	13	32	7	43	19

Legend: CI1/2/3 – first/second/third round of recording CI, SI1/2/3 – first/second/third round of recording SI, HS – hesitations, L – vowel/consonant lengthening

Table 3. Hesitations and vowel/consonant lengthening

The overall evaluation shows that the average occurrence of hesitations per student decreased in both CI and SI when comparing the beginning and end of the semester (CI: 31.3 vs. 19.7; SI: 26.1 vs. 17.5). In all rounds, the standard deviation was rather high, indicating a relatively high deviation from the arithmetic mean, the highest being in the first CI round. Some students did not use hesitations at all, while others used them frequently. This may be related to Zhao's (2022) findings that the occurrence of disfluencies in CI was influenced by anxiety level, but not by language proficiency or working memory. Specifically, more anxious students tended to have more hesitations and repetitions.

It is unusual that the values were higher for CI (shorter recording) than for SI (longer recording). We suspect that this might be related to the following reason: in CI, interpreters set their own pace, and are thus not under time stress as in SI; therefore, if a student tends to use hesitations, then they may be more frequent in CI than in SI. In addition, CI involves high multiple-effort load (listening and note-taking, note reading and speech production).

The average occurrence of vowel/consonant lengthening per student increased in CI and remained the same in SI when comparing the beginning

and end of the semester (CI: 4.4 vs. 11; SI: 5.3 vs. 5.3). In this respect, CI was characterised by deterioration, SI by stagnation. As in the case of hesitations, the standard deviation was high, indicating a significant departure from the mean. The increased occurrence of prolonged vowels/consonants in CI may be related to the effort to eliminate hesitations. By controlling the occurrence of hesitations, students may prolong vowels/consonants more often. The lowest occurrence of hesitations was achieved in the second round in both modes. Students' awareness of their own shortcomings after analysis in the first round and subsequent training may have contributed to this clear improvement. The occurrence of hesitations between the first and the third round in CI and SI was reduced by most students (S1, S2, S3, S6, S8, S10); in other words, the decrease of hesitations in CI was accompanied by a decrease in hesitations in SI, which again may point to a possible relationship between CI and SI. This achievement can also be attributed to a general improvement due to all the other courses that students had taken during the semester. Zhao (2022) reports a marginally significant effect of working memory, suggesting that disfluencies tend to decrease as a function of working memory. In the prolonging of vowels/consonants, there was great variability between students and modes (CI, SI), and no prevailing positive or negative trend was identified.

Due to certain similarities, we decided to evaluate corrections and repetitions together as well (Table 4). The German project VERBMOBIL also combines these two shortcomings into one category.

	CI1 (N = 10)		CI2 (N = 10)		CI3 (N = 10)		SI1 (N = 10)		SI2 (N = 9)		SI3 (N = 10)	
Formal deficiencies	C	R	C	R	C	R	C	R	C	R	C	R
Mean	8.3	1.7	10.9	3.4	9.7	3.1	11.5	8.3	17	6	16.4	5
Standard deviation	6.3	2.2	4.3	6	5.1	4.7	5.6	11.6	7.5	7.8	6.4	6.9
Minimum	2	0	5	0	4	0	6	0	7	0	9	1
Maximum	20	7	19	20	18	16	25	36	29	25	26	24

Legend: CI1/2/3 – first/second/third round of recording CI, SI1/2/3 – first/second/third round of recording SI, C – corrections, R – repetitions

Table 4. Corrections and repetitions

When comparing the average incidence of corrections per group at the beginning and end of the semester, we see an increase in both CI (8.3 vs. 9.7) and SI (11.5 vs. 16.4). We see that the increase was low in CI, but

relatively high in SI. This may be related to the specifics of SI and students' individual approaches (for example, short décalage), as well as the characteristics of the CI speeches. In this case, the overall trend is interesting again, as the deterioration in this criterion in CI was also seen in SI. As for repetitions, the tendency in CI and SI was different. In CI, there was a deterioration in this criterion over the semester (1.7 vs. 3.1); in SI, on the other hand, there was an improvement (8.3 vs. 5). The reason could be higher time pressure in SI, and therefore less room for repetitions. Comparing the standard deviations of corrections and repetitions in all rounds and in both modes, it is clear that it was much higher in the case of repetitions, indicating that the data are spread far from the mean. Most students (S1, S2, S3, S4, S8, S10) improved or maintained the original (low) level of repetitions in CI (maximum three repetitions during one speech). One student (S5) produced the highest count of repetitions in all rounds of recording in both modes. Surprisingly, this was a student who preferred interpreting to translation, was equally inclined to both modes (i.e. CI and SI) and interpreted into his mother tongue (i.e. he was not disadvantaged).

Another formal shortcoming that we examined was so-called false starts (Table 5).

False starts	CI1 (N = 10)	CI2 (N = 10)	CI3 (N = 10)	SI1 (N = 10)	SI2 (N = 9)	SI3 (N = 10)
Mean	0.7	0.5	1.1	1.8	0.8	0.4
Standard deviation	0.8	0.7	1.6	1.8	0.8	0.7
Minimum	0	0	0	0	0	0
Maximum	2	2	5	5	2	2

Legend: CI1/2/3 – first/second/third round of recording CI,
SI1/2/3 – first/second/third round of recording SI

Table 5. False starts

We consider it positive that, with the exception of a few students, these deficiencies did not occur in interpreting, or reached only low values, i.e. one to two occurrences during an entire interpreting performance. Individually, there was an improvement among the majority between the beginning and the end of the semester, both in CI (S1, S4, S6, S7, S8, S9) and in SI (S1, S2, S3, S5, S7, S8, S9, S10). The average value per student shows continuous improvement throughout the semester in SI. In CI, we observe a deterioration between the beginning and the end of the semester, which could be attributed to one student (S5) and the above-average occurrence of false starts in his interpreting. The same student produced the highest counts of repetitions during all six recordings. This particular

case (student) refutes our assumption that a motivated student (preferring interpreting) would achieve good interpreting performances. Moreover, it confirms the fact that motivation is only one of several factors that co-determine interpreting performance.

Redundant sounds (Table 6) most often involved lips smacking, with occasional sighs or giggles. On average per group, there was an improvement in this respect in both modes (CI 3.1 vs. 0.6; SI 2.7 vs. 1.1). The progress in CI was also evident in SI, though it was more pronounced in CI, which is to be expected, as the course was targeted at training of CI.

Redundant sounds	CI1 (N = 10)	CI2 (N = 10)	CI3 (N = 10)	SI1 (N = 10)	SI2 (N = 9)	SI3 (N = 10)
Mean	3.1	1.8	0.6	2.7	1.3	1.1
Standard deviation	4	2.1	0.7	3.8	3.6	1.4
Minimum	0	0	0	0	0	0
Maximum	12	6	2	12	11	4

Legend: CI1/2/3 – first/second/third round of recording CI,
SI1/2/3 – first/second/third round of recording SI

Table 6. Redundant sounds

The last shortcoming examined was unfinished sentences (Table 7). One of the first recommendations in interpreting practice is to complete sentences. We view it as positive that the average incidence of unfinished sentences decreased over the semester in CI (0.3 → 0.3 → 0.1) and in SI (1.8 → 0.8 → 0.4).

Unfinished sentences	CI1 (N = 10)	CI2 (N = 10)	CI3 (N = 10)	SI1 (N = 10)	SI2 (N = 9)	SI3 (N = 10)
Mean	0.3	0.3	0.1	1.8	0.8	0.4
Standard deviation	0.7	0.7	0.3	2.3	1.7	0.5
Minimum	0	0	0	0	0	0
Maximum	2	2	1	7	5	1

Legend: CI1/2/3 – first/second/third round of recording CI,
SI1/2/3 – first/second/third round of recording SI

Table 7. Unfinished sentences

Apart from the improvement of the group as a whole, there was individual improvement over the semester in both modes in 9 out of 10

students. On average, the students did not complete more sentences in SI than in CI, which is undoubtedly related to the cognitive demands of SI and the absence of training focused on SI. This finding corresponds to Gile's (2001) claim that CI is less prone to incomplete sentences. This case may indicate a positive connection between CI training and SI as well as the positive impact of other translation courses taken at the same time.

5. Discussion and conclusion

We tried to verify whether the training of CI skills has a positive effect on the training of SI skills even in the absence of specific SI training. Our findings suggest that while performance in CI improved, performance in SI also improved. Evaluations by other students (N = 7) confirmed that between the beginning and the end of the semester there was an improvement in the overall group's as well as in most subjects' interpreting performances. Kianičková (2021), Labanc (2021) and Hires (2021) also reached similar findings in their master's theses, although they used different methods.

The present study was based on data collected from 10 students and therefore cannot provide generally valid conclusions. It was implemented on a small sample of students who voluntarily chose a course focused on practicing CI skills. The questionnaire showed that 8 of them had the preferences (motivation) that best suited our research: 3 indicated a preference for interpreting and 5 for both translating and interpreting. The 2 students who did not show the desired interpreting preferences (S3, S9) were still able to continuously improve their performance, which was confirmed by other students' evaluations, as well as the scores they achieved in the examined formal deficiencies. This illustrates the potential impact of translation, specifically parallel translation courses, on interpreting performance. At the same time, a declared preference for interpreting (S5) did not always lead to better performances, i.e. a lower incidence of formal shortcomings.

We found that in both modes there was a parallel reduction of the following formal shortcomings: hesitations, redundant sounds, and unfinished sentences. In contrast, the number of vowel/consonant lengthening in both modes increased, probably as a side-effect of students controlling the occurrence of hesitations. In the future, it will be necessary to pay attention to this phenomenon and, if necessary, focus on reducing lengthening[15]. This negative trend also applied to corrections in both modes, which may be related to the lexical saturation of the CI speeches, or a short décalage in SI. Surprisingly, between the beginning and the end of the semester, the average number of repetitions increased only in CI, which may be due to the unlimited time for delivery in CI and/or the significantly

[15] Zhao (2022) recommends that interpreter training should also aim to reduce students' anxiety by providing them with more opportunities for public speaking. This should lead to a reduction in disfluencies.

worse score of a single student. The same student also negatively affected the average false starts in CI.

We only examined the formal criteria of the interpreting performances; we did not evaluate the content. We presumed that at this stage of training (one completed semester of CI, no completed semesters of SI) a higher degree of semantic agreement would be demonstrated for CI than for SI. However, we do not rule out that detailed analyses could yield similar results to the Lv & Liang (2018) and Cox & Salaets (2019) studies, in which CI output was shown to be lexically and semantically simplified. In further processing of our data, it would be interesting to examine whether students with less formal deficiencies were able to convey more correct information than students with more formal deficiencies. Another approach to such research is to compare (other) students' evaluations with (other) teachers' evaluations, as done by Rejšková (1999). These comparisons would provide us with further data on the quality of the interpreting performances. However, it is quite difficult to enlist several teachers of interpreting who would listen to and evaluate the recordings in their free time, in our case 30 recordings lasting about 5–6 minutes[16] and 30 recordings lasting about 10 minutes. It is also time-consuming to check the identified deficiencies on the basis of the audio recordings and transcriptions. If a correction or addition is needed (which occurred in all cases), the time needed to mark the deficiencies is added to the time needed for the listening.

The COVID-19 crisis interrupted the data collection within the project. We thus did not obtain data from the parallel teaching of CI and SI during the compulsory course in the summer semester. We presume that the impact of targeted training would lead to a more visible improvement in SI skills than in this case.

Similarly to the literature, our research suggests that CI training is also beneficial for SI, but it does not give a clear answer to the question of whether to teach CI and SI sequentially or in parallel. More precise conclusions could be formulated after collecting and processing data from students who are trained in CI and SI simultaneously.

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[16] In CI the "target text" is usually shorter than the "source text". Herbert (1952) recommended that full CI last no longer than 75% of the original speech.

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