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# Teaching interpreting theory through snowballing. Graduate students' perceptions and its effect on competence, motivation, and attitude towards theory

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**Abstract:** The translation and interpreting literature indicates that theory is beneficial and that students hold a positive attitude towards it, reinforcing the conviction that theory should be a component of curriculum. Since students have expectations regarding how theory should be taught and teaching theory in a way that generates positive learning experiences and encourages internalization and application is challenging, a pressing issue to be tackled is how to teach theory, which is, unfortunately, an understudied area. This article aims to propose the use of snowballing as a transformationist approach to theory teaching and explore its reception among students and its effect on their self-perceived competence, motivation, and attitude towards theory. Twenty interpreting graduate students were involved as participants. A semantic differential scale was used to compare students' perceptions of snowballing with those of their prior learning experiences. A one-group pretest-posttest design was used to check the effect of snowballing. The current study adds to previous studies to confirm students' positive attitude towards theory. It provides new evidence that students' motivation to learn theory includes identified regulation and intrinsic motivation, and that snowballing is well received among students and improves their self-perceived competence, motivation, and attitude towards theory.

**Keywords:** *theory teaching, snowballing, reception, effect, competence*.

## La enseñanza de la teoría de interpretación por medio del aprendizaje 'bola de nieve' (*snowballing*): su recepción entre estudiantes y el efecto sobre su competencia, motivación y actitud auto-percibida hacia la teoría

**Resumen:** La literatura indica que la teoría de la traducción e interpretación es beneficiosa y que los estudiantes tienen una actitud positiva hacia ella, reforzando la convicción de que la teoría debe ser un componente del currículo. Dado que los estudiantes tienen expectativas sobre cómo se debe enseñar la teoría, y que es un desafío la enseñanza de teoría de una manera que genera experiencias positivas de aprendizaje y fomenta la internalización y su aplicación, un tema apremiante que debe abordarse es cómo enseñar la teoría. Este artículo tiene como objetivo proponer el uso del aprendizaje 'bola de nieve' (*snowballing*) como un enfoque transformador de la enseñanza de la teoría y explorar su recepción entre los estudiantes y el efecto sobre su competencia, motivación y actitud auto-percibida hacia la teoría. Participaron veinte estudiantes de interpretación. Se utilizó una escala diferencial semántica para comparar las percepciones del aprendizaje bola de nieve entre los estudiantes con las de sus experiencias de aprendizaje previas. Se utilizó un diseño de pruebas antes y después por un grupo para verificar el efecto del aprendizaje bola de nieve. El estudio proporciona nueva evidencia de que la motivación de los estudiantes a aprender la teoría incluye la regulación identificada y la motivación intrínseca, y que el aprendizaje bola de nieve está bien recibida entre los estudiantes y mejora la competencia, la motivación y la actitud percibidas por los estudiantes hacia la teoría.

**Palabras clave:** *enseñanza de teoría, enseñanza bola de nieve, recepción, impacto, competencia*.

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## 1. Introduction

The usefulness of theory in translator and interpreter training has been an area of great debate. While some hold that theory is useless (Chesterman & Wagner, 2002; Robinson, 1997), others believe that it is helpful (Gile, 2005; Setton, 2010). If the argument that teaching theory is one important concern of higher education (Cownie, 2000) is not convincing enough, scholars have mentioned various benefits of theory, ranging from equipping translators with the ability to come up with more solutions to a given problem to cultivating a sense of professional identity (Cintrão, 2010; Di Mango, 2019; Gile, 2009; Lederer, 2007; Ordóñez López & Agost, 2022; Pym, 2014; Setton & Dawrant, 2016; Shuttleworth, 2001; Tryuk, 2011; Takeda, 2010; Williams, 2013). The benefits of theory are echoed by students' positive attitude towards it (Agost & Ordóñez López, 2015; Arumí Ribas, 2020; Hao, 2019; König, 2018; Ordóñez-López & Agost, 2014, 2022; Shih, 2011; Sung, 2016; Tryuk, 2011).

However, it seems that students have expectations as to how theory should be taught (Giczela-Pastwa, 2017; Hao, 2019; Li, 2002; Ordóñez-López & Agost, 2014, 2022; Tryuk, 2011; Wali, 2015). Specifically, deductive, transmissionist approaches are associated with dissatisfaction (Giczela-Pastwa, 2017; Hao, 2019; Wali, 2015). It appears that a pressing issue to be tackled is not so much why theory should be taught but rather how translation should be taught. Worse still, teaching theory courses is no easy task because it is challenging to communicate abstract theory to students in a way that generates positive learning experiences and reinforces internalization and meaningful application (Marshak, 2019). So far, few relevant studies have been devoted to exploring the effectiveness of any instructional design in teaching translation or interpreting theory and its reception among students.

Against such a background, this study aims to propose an instructional design for a snowballing activity, a transformationist approach to theory teaching, and explore its reception among students and its effect on students' self-perceived competence, motivation, and attitude towards theory. It is hoped that the current study can contribute to the limited literature on theory teaching in translation studies by initiating a creative approach to theory teaching and presenting relevant evidence on its reception and effectiveness.

In the current study, theory is defined as concepts or propositions that are abstracted from practice and that describe the relations among the variables of translation or interpreting (namely, writers/speakers, source texts/speeches, translators/interpreters, target texts/speeches, readers/listeners, and communicative contexts) (Cintrão, 2010; Kerlinger & Lee, 2000).

## 2. Why teaching theory matters: a debunking argument

A popular argument against theory teaching is that seasoned translators without theoretical knowledge can nonetheless translate well. Is it an excuse for not teaching theory?

Translation theory is usually developed by theorists who are also practitioners and is based on their translation experience. As can be seen in Figure 1, after a certain amount of translation practice, practitioners accumulate preliminary experience which is then refined through more practice. Those theorists usually have backgrounds in linguistics, communication sciences, cultural studies, or any other neighbouring disciplines that have developed a rich body of knowledge, which helps rationalize their refined experiences and express them as preliminary theories. The theories are checked against translation practice and revised. They are published, read, criticized, and compared with similar theories. The advantages of those theories lie in their explicitness. Explicit theories are recorded in the literature and serve the needs of the whole translation community, including translation practitioners, theorists, trainers, and students. They can be learned, internalized, and used as a diversity of conceptual tools by stakeholders in the community, who may modify them if they are inaccurate, update them if they are incomplete, and discard them if they prove to be incorrect (Marshak, 2019).

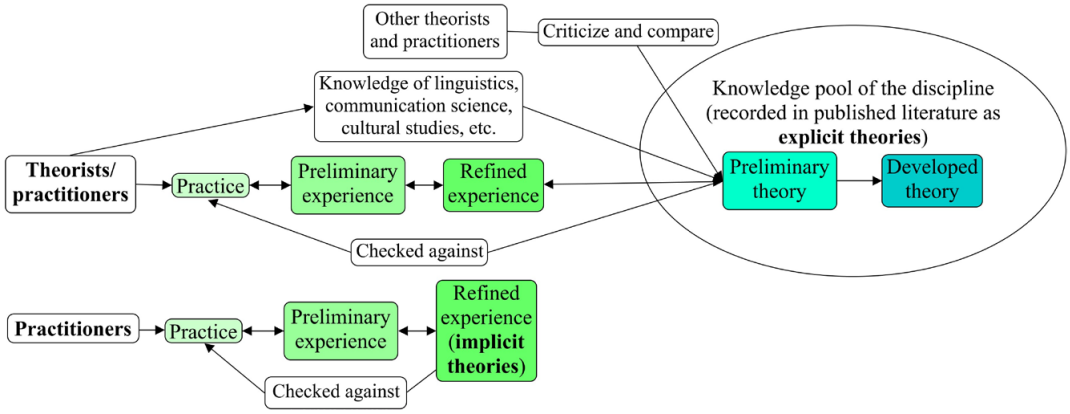


**Figure 1.** The development of explicit and implicit theory.

Seasoned practitioners without knowledge of explicit theory can translate well because they may apply implicit theory developed by themselves in translation practice. People act from beliefs. Based on their life experiences, socialization, and education, people hold clear but implicit beliefs or informal theories about how the world works, and such beliefs determine how they see the world and act (Marshak, 2019). Like all other human activities, translation is governed by either explicit or implicit theories (Viaggio, 2006). As shown in Figure 1, those who can translate well are usually reflective practitioners who gain preliminary experiences from practice, keep reflecting on their experiences, and go on to refine them. Their experiences are continually checked against practice and then revised. They are similar to the refined experiences developed by theorists, but usually take the form of fragmented principles instead of systematic rules and are not further developed into explicit theories. Therefore, they are the embryonic forms of translation theory that help practitioners make strategic decisions to avoid or solve translation problems. The fact that they are invisible does not deny their existence and use in translation practice. In

other words, although good practitioners can translate well without explicit theories, they do use self-developed implicit theories. Such refined experiences or implicit theories guide how they see and do translation.

However, implicit theory has limitations. Implicit theory is not recorded in the literature in the form of published contributions to the development of a discipline, and thus cannot easily be passed on as wisdom for future generations. It is usually stored in memory for personal use and normally not shared among peers. Its quality depends on the competence of the practitioner who summarizes it. Even if an implicit theory has flaws, it cannot be criticized and compared with other implicit theories by peers and theorists, and therefore misses opportunities for elaboration and advancement (Viaggio, 2012). With one's own belief system alone at disposal, a practitioner may never know if there exists a more efficient implicit theory for a given task. For a practitioner, the fewer the (implicit or explicit) theories available, the greater the chances of misuse and mistakes (Marshak, 2019). To make an analogy, had all doctors kept medical knowledge as implicit theory for private use, medical science would likely never have made any progress.

Additionally, the inefficiency of developing implicit theories individually is apparent. How many practitioners out of the total translator population can develop implicit theories that guide practice well? How long does it take for practitioners to form their own implicit theories? What if only a limited number of top practitioners can develop implicit theories, and it takes, say, five or more years of practice? This is exactly where teaching theory makes sense, as it avoids "reinventing the wheel."

The goal of teaching theory is to enhance students' efficiency in developing personal theories for practice. Unlike cookbooks that provide standard recipes, theory provides tools to inform decisions in tricky situations (Inguaggiato et al., 2021). Translation theories are like maps which never take translators anywhere but rather help them spot the best way based on their needs, by presenting all possible roads, which enables them to make an educated decision (Viaggio, 2012). Similar to seasoned practitioners, students accumulate experiences (embryonic forms of theory) from their translation practice and apply them subconsciously in translation decisions. However, such embryonic forms of theory are usually not systematic and can even be flawed due to their limited translation experiences. Translation theory allows students to be conscious of their limited theoretical perspectives, informs their translation practices, and provides a structure for them to reflect on their experiences and to organize them systematically.

According to the current literature, the benefits of teaching translation theory go beyond developing personal theories for practice and self-reflection (Shuttleworth, 2001; Takeda, 2010; Williams, 2013). Theory helps students understand better the translation phenomenon (Ordóñez López & Agost, 2022; Williams, 2013), internalize the criteria of translation quality evaluation (Lederer, 2007; Setton & Dawrant, 2016; Williams, 2013), justify the selection of appropriate strategies to tackle translation problems (Cintrão, 2010; Gile, 2009; Lederer, 2007; Pöchhacker, 1992; Pym, 2014; Setton, 2010; Williams, 2013), grow into lifelong learners capable of overcoming new problems and adapting to new market

needs (Orlando, 2016; Tryuk, 2011; Takeda, 2010), cultivate a sense of professional identity (Williams, 2013), master the meta-language to communicate with their peers and teachers (Di Mango, 2019; Setton & Dawrant, 2016), and get prepared for translation research and teaching (Bernardini, 2004; González Davies, 2004; Ordóñez López & Agost, 2022; Williams, 2013).

## 3. How to teach theory: our current knowledge

Do students endorse the above benefits claimed by scholars? The majority of previous studies concerning theory teaching are concerned with students' (and/or their teachers') attitude towards theory. Although a few studies suggest that some students (20%-60%) do not recognize the necessity of theoretical components (Giczela-Pastwa, 2017; Li, 2002; Jeong, 2000; Seung et al., 2001), many others tend to indicate that the majority of students hold a positive attitude towards theory (Agost & Ordóñez López, 2015; Arumí Ribas, 2020; Hao, 2019; König, 2018; Ordóñez-López & Agost, 2014, 2022; Tryuk, 2011; Shih, 2011; Sung, 2016). Research also indicates that students prefer to learn theories that explain the translation process and guide practice and learning (Arumí Ribas, 2020; Giczela-Pastwa, 2017; Hao, 2019; König, 2018; Ordóñez-López & Agost, 2014, 2022; Sung, 2016).

In spite of students' positive attitude towards theory, the reception of theory teaching is not satisfactory. Students complain that they understand theory but cannot apply it to practice, which might be related to the way theory is taught (Hao, 2019; Giczela-Pastwa, 2017; Ordóñez-López & Agost, 2014, 2022; Wali, 2015). Research indicates that students expect theory to be taught in an inductive way, in which theory is connected with practice (Hao, 2019; Li, 2002; Tryuk, 2011; Wali, 2015). If the value of theory lies in its practicality, it should be taught in ways that demonstrate its practicality (Marshak, 2019). As shown in Figure 2, theory can be taught through two approaches. A teacher with constructivist beliefs may use a transformationist approach which builds on students' prior (though limited) translation experience. The teacher scaffolds them to take advantage of previous experiences in their interactions with the theory to be learned. Through collaborative activities, students create new interpretations by integrating translation theory into their experiences. The ultimate goal is to form personal theories of translation and use them to guide their future translation practice. Since theories are developed based on experience, the transformationist approach, moving from world experience to abstract knowledge, is consistent with the way people learn things. Given students' preference for a method that connects theory with practice (Hao, 2019; Li, 2002; Tryuk, 2011; Wali, 2015), the transformationist approach encouraging learners to construct personal theories based on their prior experiences sounds attractive.

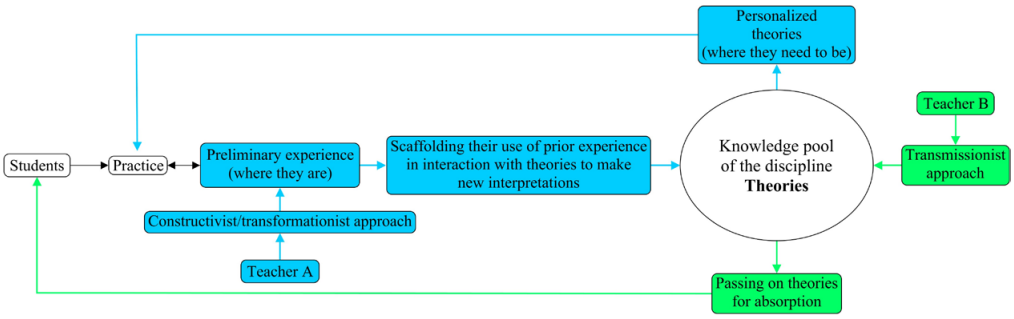


**Figure 2.** Two teaching approaches in contrast.

However, translation theory is frequently taught through a transmissionist approach, in which teachers transmit abstract theoretical concepts without relating them to practice (Hao, 2019; Giczela-Pastwa, 2017; Wali, 2015). As shown in Figure 2, a teacher who uses a transmissionist approach to teaching theory sees knowledge of theory as the ultimate goal of teaching. The teacher passes on theory to students for passive absorption. Such a method of teaching, isolating abstract knowledge from world experience, is in conflict with the way people come to know things. Educational research indicates that a de-contextualized way of teaching theory like this is not well received among students, though they may endorse the necessity of learning theory (Yan & He, 2022).

So far, there is a scarcity of research on the use of a transformationist approach to teaching theory. The only study devoted to methodologies of theory teaching is that of Claire Shih (2011), who investigated 12 students' perceptions of translation theory and their experiences of writing reflective journals in learning theory. It was found that students see theory as guidelines to help solve translation problems and that they believe that writing reflective journals is difficult, but that it helps them to learn theory. There is still a lack of studies devoted to the systematic design of instructional activity in theory teaching, and how this impacts students' learning experience, self-perceived competence, motivation, and attitude is yet to be explored.

Given the necessity of theory teaching and the dearth of research on relevant teaching approaches, this article reports on an exploratory study, presenting data regarding how interpreting students perceive the use of snowballing, a typical transformationist approach, in teaching interpreting theories to trainee interpreters, as well as its effect on their self-perceived competence, motivation, and attitude towards theory.

## 4. Snowballing: a transformationist method of teaching

The tenets of transformationist approach to teaching are based on constructivism. For constructivists, learning is a student-centered process of constructing a personal interpretation of the world through interactions with peers with scaffolding from teachers on the basis of meaningful experiences. According to the constructivist view of learning (Fox, 2001; Kiraly, 2000; Santrock, 2004), new knowledge (theory or a systematic

interpretation of phenomena) is constructed through action and experience. To make construction happen, students need to actively and meaningfully interact with the knowledge being learned on the basis of their prior knowledge (experiences with the phenomena). Since each student has different prior knowledge, which leads to different interpretations and constructions, newly constructed knowledge should be verbalized, discussed, and negotiated through collaboration. Teachers are responsible for creating a supportive environment and learning activities that engage students to connect their prior knowledge and new knowledge. As prior knowledge helps students construct new knowledge when it is accurate, adequate, and appropriate —but hinders new knowledge construction if the reverse is true (Ambrose et al., 2010, p. 14)— teachers should take the roles of scaffolding and coaching. The purpose is for students to progress from where they are to where they need to be with the assistance of teachers (or peers) who are more knowledgeable on the topic. Learning is thought of as a process and should be assessed through non-traditional formats, such as one-minute papers, reflection reports, conceptual maps, oral presentations, etc. Such an approach is consistent with the proposed principle of theory teaching in the current literature which holds that theory should be taught via connection with students' prior translation experiences (Arumí Ribas, 2020; Bartrina, 2005; Gile, 1992; Hao, 2019; Orlando, 2016; Roberts, 1988; Setton & Dawrant, 2016; Setton, 2010; Tryuk, 2011; Wali, 2015). In addition, it satisfies students' expectations concerning the connection of the theory being learned with translation practice (Hao, 2019; Li, 2002; Tryuk, 2011; Wali, 2015).

By contrast, a transmissionist view of learning favours a teacher-centered approach. Transmissionists believe that knowledge can be transferred from teachers to students, that learning can occur on an individual basis without social interaction, that teachers are knowledge transmitters and should have control over the learning process, and that knowledge can be assessed through traditional tests (Kiraly, 2000, p. 22).

Research indicates that the constructivist approach to instructional design is well received among both students and teachers (Altun & Büyükduman, 2007). This can be explained from the perspective that different ways of information processing affect the memory system. According to the level of processing (LOP) model (Craik & Lockhart, 1972), how input information is processed affects maintenance success in long-term memory. If information processing is shallow (phonemic or structural processing), it decays quickly. If it is processed deeply by relating it to prior knowledge or experiences to make sense (semantic processing), it transfers more readily into long-term memory. A transmissionist approach presents knowledge to students without relating it to students' experiences and prior knowledge. Such a shallow method of learning (information processing), even though adequate repetition can expand the duration of knowledge in memory, cannot ensure successful maintenance of knowledge in the long-term memory, let alone retrieval of it for use in future practice. By contrast, in a transformationist approach, knowledge is constructed personally by students through interactions with peers on the basis of

prior knowledge and experiences. Such deep processing of knowledge allows students to create meaning out of learning activities and relate it to their own experiences, which aids knowledge transfer into long-term memory and retrieval for use in future.

One learning activity in which teachers can scaffold students to co-construct knowledge is snowballing. Snowballing is a student-centered technique to generate ideas or knowledge (Johnstone, 1992, p. 28; Kanji & Asher, 1996, p. 151). Students process information (pictures, videos, texts, etc.) and generate their ideas or knowledge individually. They work in pairs, and then in groups of four, eight, or more students, until the entire class work as one group. During the snowballing process, students-generated ideas or knowledge is shared, compared, revised, organized, and refined to produce a complex knowledge structure. Students are active actors in controlling their learning process and they decide the learning pace. The snowballing process is displayed in Figure 3. It not only engages students in constructing knowledge in collaboration and in developing a sense of ownership of the knowledge in focus, but also diagnoses students' current understanding of the knowledge and directs teacher's scaffolding.

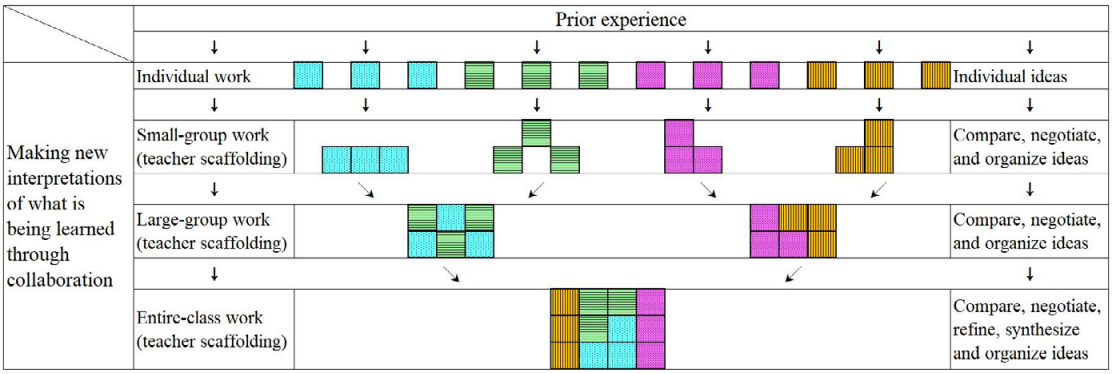


**Figure 3.** The snowballing processes.

## 5. Contextualization: teaching interpreting theory through snowballing

The context in which the current study was conducted is a three-year Master's degree program. Since 2008, the program has been offering two tracks of study, namely, Master of Arts in Translation and Master of Arts in Interpreting. Both tracks are vocationally-oriented, aiming at preparing students for professional translation and interpreting careers. In the interpreting track, the first year of study is devoted to fundamental courses, for example, consecutive interpreting without notes, interpreting theory and practice, sight translation, consecutive interpreting; the second year delves into simultaneous interpreting, conference interpreting, and domain-specific interpreting (business interpreting, diplomatic interpreting, and court interpreting); the third year focuses on research methodology and academic writing, internship, and thesis project.

The snowballing activity to be described was used to teach interpreting theory to 20 graduate students in a 16-week course entitled "Interpreting Theories and Practice" (two hours per week). The students (16 female and four male, ranging in age from 22 to 26 years old) were first-year interpreting majors. Before attending the course concerned, the majority of them (16 or 80%) had taken a general translation theory course or a course including a translation theory module during their undergraduate education. None of them had learned interpreting theories. Another interpreting course offered in parallel was a consecutive interpreting without note-taking course (six hours per week), which was more practice-oriented and aimed at equipping them with fundamental interpreting skills.

The purpose of the "Interpreting Theories and Practice" course was to provide a theoretical lens for students to understand, reflect on, and assess their current problems and challenges in interpreting learning, analyze the problem triggers, help them to propose and justify the use of specific strategies, and set goals for future development. In the words of Andrew Chesterman (2000), the course aims to equip students with conceptual tools (key principles and strategies) to guide the development of their interpreting competence.

The bulk of the course consisted of theories that may serve as frameworks for students to reflect on their everyday learning experiences and support their skill acquisition. It started with a needs analysis of students' expectations for the course, a group discussion of the course syllabus, and an instructor-led discussion of teaching beliefs, schedule, and activities in the first week.

The following 14 weeks (28 hours) were devoted to seven theories (concepts), namely, common problems in interpreting, Interpretive Theory, Effort Models, the listening comprehension model, working memory, interpreting strategies, and interpreting quality criteria, two weeks (four hours) for each theory. Of the four hours, two were devoted to interpreting speeches specifically selected by the teacher so that students would encounter relevant problems that could be explained by the theory to be learned, and the other two were devoted to theory teaching.

The seven theories were selected from an earlier ambitious list which included many others (interpreter competence, interpreters' roles and ethics, note-taking principles and systems, interpreting modes and settings, and relevance theory). Since teaching more theories than necessary would add to the difficulty of teaching (Gile, 1992), the limited 28 teaching hours only allowed for the inclusion of a minimum number of theories.

The inclusion of the seven theories resulted from the application of the following criteria. The first one was that the selected theories should help students make reflections on their interpreting practice. As described in the course syllabus, the course concerned aims to provide a theoretical lens for students to understand, reflect on, and assess their problems in the interpreting process and product, analyze problem triggers, propose and justify the use of specific strategies, and set goals for future learning. Common categories of problems proposed in the literature provide a framework for them to categorize and

better identify their problems. The listening comprehension model and memory model support students' understanding of problems in the interpreting process. Knowledge of strategies and their definitions recorded in the current literature makes them more resourceful so that they can prevent or solve problems with the appropriate strategies. Interpretive Theory and Effort Models, the most well-known interpreting theories so far, give them theoretical tools to understand why certain problems occur and why certain strategies are useful. The interpreting quality criteria help them reflect on the quality or problems of the interpreting product. The second criterion was that theories that would be introduced in the following courses were excluded. For example, interpreters' roles and ethics, note-taking principles and systems, and interpreting modes and settings were excluded because they would be covered in consecutive interpreting, simultaneous interpreting, conference interpreting, and domain-specific interpreting courses. The last criterion was the student-friendliness of a theory in terms of requirement in prior knowledge. Theories that require prior knowledge of linguistics on the part of students were not included, for example, relevance theory.

The sequencing of the shortlisted seven theories was set according to a rationale. The course started with a focus on common problems in interpreting because it is generally agreed that theory should be introduced after students are aware of common difficulties and problems in practice (Gile, 1992; Bartrina, 2005; Tryuk, 2011). The categories of problems served as the framework to help students track difficulties and problems in their interpreting practice throughout the whole semester. With such an awareness, students continued to learn how to explain the problems by applying Interpretive Theory, Effort Models, the listening comprehension model, and the working memory model. They subsequently reflected on how to offset the impact of problems by using specific strategies. Since the success or failure of strategy use depends on whether it can offset the impact of problems on interpreting quality, interpreting quality criteria was taught as the last theory.

During the final week, the course ended with a self-reflection report, in which students reflected on and assessed their practice during the semester, listed their problems in interpreting, used at least one of the learned theories to explain why the problems occurred, justified the selection of appropriate strategies, and set goals for future learning. This was the internalization phase, in which students learn to apply theories to their interpreting practice after theory construction based on their interpreting practice.

When teaching each theory, a snowballing activity was used. As displayed in Figure 4, it was a typical transformationist approach that reflected the beliefs of constructivists (Kiraly, 2000, p. 22). Firstly, theories were not transferred from the teacher to students; instead, students interpreted teacher-selected speeches, reflected on their problems and errors, read assigned articles, and shared, compared, and negotiated the mind-mapping process both individually and in groups before co-constructing theory with their peers. Next, learning occurred not in isolation but when it created meaning. Students' construction of theory was based on reflections of their problems in their interpreting practice and

was used to analyze problems and justify the choice of appropriate strategies. Moreover, students were in control of their learning, with the teacher serving as a scaffolder. Most activities in the snowballing process were student-centered, while the teacher coordinated the activities and scaffolded the students' construction of knowledge all the way from interpreting, through problem tracking, reflections, reading, discussion, and negotiation of mind maps, to the final step. In addition, learning was collaborative, because students went through rounds of sharing, comparison, refinement, synthesis, and reorganization based on their collaboration and negotiation with peers. Finally, theory learning was seen as a process instead of a product. Self-reflection reports, instead of standardized tests, were used to assess students' learning.

The teaching of the Interpretive Theory (ITT) will be used to illustrate the teaching activity undertaken. The ITT theory was the second of the seven theories on the teaching schedule. The first step consisted of interpreting practice and reflecting upon it. To prepare students for learning the core concepts of ITT, such as de-verbalization and transcoding, the teacher selected a speech with utterances whose meaning was highly contextualized and which tended to be rendered literally by some students. It also contained less-contextualized elements, such as names and figures. The students then interpreted the speech and their interpreting performances were recorded. Their recordings were then played back by the teacher, to enable them to keep track of and reflect on their problems and errors, with prompts from the teacher and by using the "common problems in interpreting" framework learned over the previous two weeks. This interpreting and reflection experience paved the way for their reading and co-construction of the ITT theory in the next step. By doing so, the current instructional design was consistent with the guiding principle of theory teaching that theory should be relevant to students' practice (Arumí Ribas, 2020; Bartrina, 2005; Gile, 1992; Hao, 2019; Orlando, 2016; Roberts, 1988; Setton & Dawrant, 2016; Setton, 2010; Tryuk, 2011; Wali, 2015).

The next few steps consisted of reading and theory construction. The students were divided into three groups, each responsible for reading one of the three articles on ITT: Marianne Lederer (1999, 2015) and Franz Pöchhacker (2016). The three articles were highlighted by the teacher to limit the readings to only the necessary paragraphs so that students could spare more time to engage in a deep understanding of the ideas and thus develop better comprehension. The division of readings and highlighting were done to maintain motivation levels, as too many assignments of reading academic texts and their required effort may discourage students (Ordóñez López & Agost, 2022). Every group member read individually the article that their group was responsible for and presented the core concepts of ITT in the form of a mind map. Then students within the same group shared, compared, negotiated, and organized their mind maps to co-construct a revised mind map containing ideas from the article they had read. Subsequently, new groups were formed, each with a member from each previous group. Students in the new groups shared knowledge of ITT constructed in the previous discussions and contributed to the

co-construction of new mind maps, each containing ideas from all three articles. Next, the whole class worked together to compare, synthesize, refine, and organize different versions of mind maps generated by different groups to produce a finalized version.

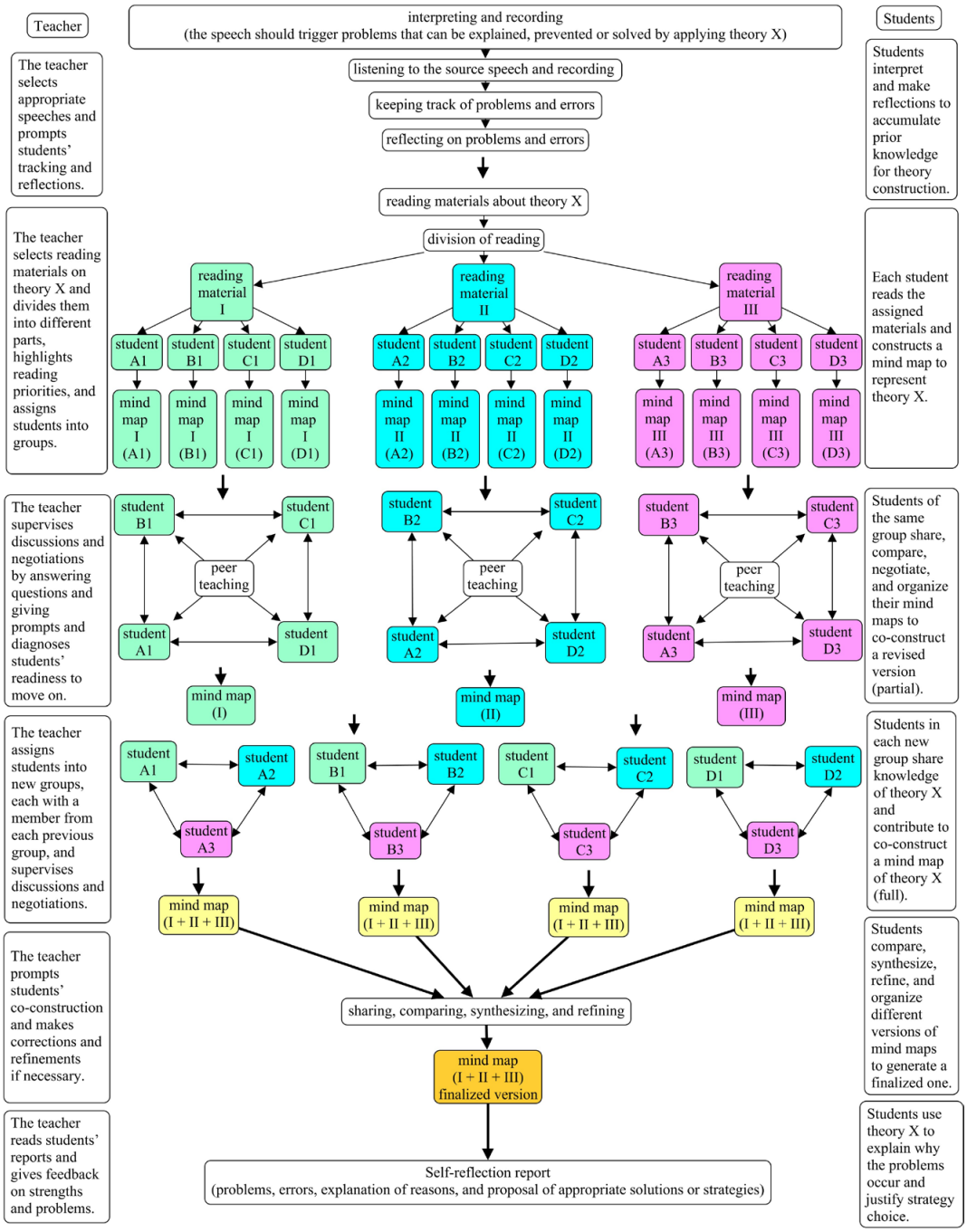


**Figure 4.** Procedures during the snowballing activity.

The whole process of group work was scaffolded by the teacher. When teaching ITT, the students were good at constructing the three-phase model and its core principles because they were well-versed in the reading materials. To help the students understand the deverbalization-reverbalization-transcoding triangle, the teacher used the Paris school's currant-bun (raisin bread) metaphor (Choi, 2003). A dough with raisins is compared to a source speech with non-contextualized elements, such as numbers, terms, and names. After baking, while the dough transforms into bread (the sense of the source speech is de-verbalized and reformulated in the target speech), the raisins are still physically recognizable (the non-contextualized elements with fixed equivalents are transcoded into the target speech).

The students were less efficient at summarizing the implications, limitations, and potential uses of the ITT theory. Since implications and potential uses of theory are important for theory teaching (Gile, 1992), the teacher's scaffolding was considered more significant by the students in those regards. For example, when discussing the implications, the teacher guided the students to think if the following implications could be drawn: 1) since increase in shared knowledge, language, and context with the speaker helps the deverbalization of the source speech, pre-conference preparation and lifelong learning is important; 2) less-contextualized elements are transcoded, so training on language-specific less-contextualized elements and the creation of a glossary list may increase the efficiency of transcoding; 3) what is deverbalized by an interpreter should be reformulated as meaningful utterances in the target culture, so what is implicit or odd in the source culture for target listeners should be made explicit or adapted in the target speech, in particular when interpreting between a high-context language (for example, Chinese, Japanese, and Russian) and a low-context language (for example, German and English) or between working languages that differ drastically in culture (from this perspective, the ITT theory is of great value in justifying the use of such reformulation strategies as adaptation, omission, explicitation, substitution, etc.); 4) successful deverbalization and transcoding are the prerequisite of high-quality note-taking in consecutive interpreting, because a good note-taking system should cover deverbalized ideas and less-contextualized elements for transcoding.

In the final step, the students wrote a self-reflection report. The report was due at the end of the course when they had covered all the theories on the teaching schedule and accumulated quite a few examples for the common categories of problems in interpreting. In the report, they reflected on and assessed their interpreting performance. They used ITT or other theories they had learned to explain the occurrence of interpreting problems and justify the use of strategies, and set goals for future learning.

## 6. Methodology

The current study is intended to explore students' perceptions of their experience of learning interpreting theory through snowballing and its effect on their self-perceived competence, motivation, and attitude towards theory.

The participants were a convenience sample of 20 graduate students (16 female and four male). They were first-year interpreting majors at the participating university, ranging in age from 22 to 26 years old. As mentioned previously, 16 of them (80%) had taken a general translation theory course or a course including a translation theory module as part of their undergraduate education. None had learned the interpreting theories covered in the course concerned.

The current study used a one-group pre-test/post-test design due to logistical and ethical considerations. Due to the limited number of students specializing in interpreting, no control group was available for the ideal randomized two-group quasi-experimental design. In addition, it would have been unethical to divide them into control and experimental groups when the benefits of the pedagogical intervention could be predicted from the accumulated knowledge in the literature.

The study was conducted in the fall of 2021 over a 16-week semester. The pre-test, in the form of an online survey questionnaire, was implemented six days prior to week one. The 16 weeks were then devoted to the snowballing pedagogical intervention. At the end of week 16, students responded to the post-test questionnaire. Details of the two questionnaires are presented in Table 1. When prior relevant studies were available, they were used as a construct to formulate the questionnaire items to ensure the construct validity of the instrument. On average, it took about 10 minutes to complete the pre-test questionnaire and 19 minutes to complete the post-test questionnaire. Differences between the two sets of data revealed students' perceptions of their learning experience and the impact of snowballing on self-perceived competence, motivation, and attitude towards theory.

Potential threats to the one-group pre-test/post-test design were controlled as much as possible (Fraenkel et al., 2012). Mortality (attrition) was not a threat because all the students voluntarily participated in the study, and none dropped out. The location did not affect the study because the location of instruction remained the same throughout the semester, and both rounds of data collection were completed through online questionnaires. Changes of instructor or data collector were not a threat because only one researcher/instructor was involved in course implementation and data collection. Since the time interval between the pre-test and post-test was 16 weeks, the pre-test's effect on the post-test was attenuated.

In relation to questionnaire design and administration, efforts were taken to minimize the researcher effect and to maximize the validity of students' responses. The researcher made it clear in the questionnaire that theory in the current study referred to systematic and established constructs (interpretive theory, the Effort model,

**Table 1.** Details on the pre-test and post-test questionnaire.

| Sections | Pre-test questionnaire | Post-test questionnaire |
|---|---|---|
| Introduction | Purpose, definition of theory, voluntary nature of the study, anonymity, confidentiality, etc. | The same as pre-test questionnaire |
| Demographic information | Gender, age, identity number, etc. | The same as pre-test questionnaire |
| Experience of learning theory | 1. Prior experiences of learning translation or interpreting theory (multiple-choice question; only 16 students had taken a course devoted to general translation theory or a course with a theoretical module)<br>2. Descriptions of prior experiences of learning theory (open-ended question)<br>3. Scale of agreement with the prior approach to theory teaching (ways of instruction, relevance to practice, students' role, class organization, and assessment) (semantic differential scale) | 1. Descriptions of snowballing experiences (open-ended question)<br>2. Scale of agreement with the current approach to theory teaching (methods of instruction, relevance to practice, students' and teacher's role, class organization and assessment) (semantic differential scale)<br>3. Level of satisfaction with current learning experience (7-point Likert scale)<br>4. Helpfulness of the snowballing activity (7-point Likert scale)<br>5. Valued features of the snowballing activity (open-ended question) |
| Self-perceived competence* | 1. Describing the core tenets of main interpreting theories<br>2. Categorizing common problems in own interpreting practice<br>3. Evaluating the strengths and weaknesses of own interpreting performance<br>4. Setting goals and plans for improvement<br>5. Using theory to explain the occurrence of interpreting problems<br>6. Assess the impact of inadequate interpreting on interpreting quality or communication<br>7. Using theory to justify the use of appropriate strategies<br>8. Understanding the contribution of interpreting theory to skill acquisition (7-point Likert scale) | The same as pre-test questionnaire |
| Motivation | 1. Intrinsic motivation (learning theory brings satisfaction and fun)<br>2. Identified regulation (learning theory is personally important, valuable or beneficial)<br>3. External regulation (learning theory is regulated by what one cannot control)<br>4. Amotivation (lack of intentions)<br>(7-point Likert scale, items based on Guay et al., 2000, p. 210) | The same as pre-test questionnaire |
| Attitude towards theory | 1. Importance of theory<br>2. Usefulness of theory (7-point Likert scale)<br>3. Reasons for attitude (open-ended question) | The same as pre-test questionnaire |

* Self-perceived learning is widely practiced in educational research and practice because the literature indicates that it can measure students' progress in knowledge and skills (Cole & Gonyea, 2010; Jang et al., 2016; Kuncel et al., 2005).

Skopos theory, dynamic equivalence, etc.), or less systematic knowledge or concepts about translation or interpreting (competence, quality assessment, professional ethics, strategies, etc.). The students were informed of the research purpose and were told that participation was voluntary and would not affect their grades in any way. Anonymity and confidentiality were ensured by asking students to use a self-created but unique code as their identity number (so that each student's results could be compared longitudinally). The students were instructed to complete the questionnaires in their mother tongue so that language proficiency would not stand in the way of free and detailed expression.

For quantitative data, both descriptive and inferential statistics were used. To compare students' perceptions of prior and current experiences of theory teaching, descriptive statistics were used to compare their means. Since the sample was small (n=20), the researcher checked whether the absolute difference between the post-test and pre-test results was normally distributed. The assumption of normal distribution was met. Therefore, quantitative data were analyzed using paired-sample t-tests to explore the significance of post- and pre-test differences in self-perceived competence, motivation, and attitude towards theory. It needs to be pointed out that a large sample size increases the chances of obtaining a p-value below .05 (statistically significant) even if the effect magnitude is small, while a small sample size (n<20) increases the likelihood of producing a p-value above .05 even if the effect magnitude is large (Durlak, 2009). Given the small sample size of the current study, Hedges' g (Hedges, 1981), an unbiased effect size estimator of pre- and post-test difference, was calculated. When interpreting effect sizes, a level of .20 was used, because educational researchers generally accept an effect size of .20, resulting from pedagogical interventions, as an indicator of policy interest (Hedges & Hedberg, 2007).

Qualitative analysis was confined to data collected through the open-ended questions in the questionnaire. Unlike interviews or focus groups where participants produce free comments, the qualitative data in the current study belonged to one broad theme which was set by the relevant open-ended question in the questionnaire. The coding work was simple and straightforward because the coder did not have to make inferences. Inductive content analysis (with no prior development of theme categories) was conducted with the assistance of NVivo 12.0. The participants' answers were read thoroughly several times to allow the researcher to create nodes (first-level themes), and then the frequency of recurring themes was recorded.

## 7. Results and discussion

### 7.1 The reception of snowballing among participants

The first issue the current study is intended to explore is the reception of snowballing among the student participants. Data from the semantic differential scales based on the pre- and post-test questionnaires were analyzed. As presented in Figure 5, of the five

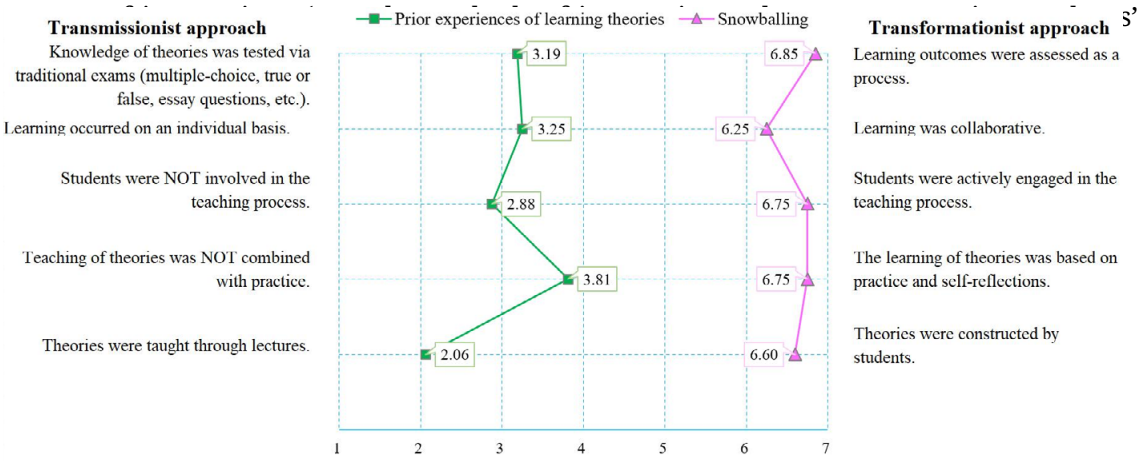


**Figure 5.** Students' perception of snowballing as compared with prior learning experiences.

role, class organization, and assessment), students' ratings indicate that snowballing is essentially a transformationist approach to teaching, compared with their prior experiences of learning theory which were closer to the transmissionist approach.

Students' descriptions of their prior and current learning experiences add evidence of their perceptions (Table 2). In response to the open-ended questions in the questionnaire, they described their prior learning experiences as a general and brief introduction to theory, which was not combined with practice. They had relatively shallow comprehension, were confused, and had no idea of how to use theory. Some have forgotten most of it. When describing their snowballing experiences, they believed that it was challenging, funny, fulfilling, enlightening, collaborative, well-planned, and effortful. Through snowballing, they came to know theory better and could use it in practice. It seems that most of their descriptions concern their feelings regarding

**Table 2.** Students' descriptions of their prior and current approach to theory teaching.

| **Descriptions of prior learning** | | **Descriptions of snowballing** | |
|---|---|---|---|
| **Categories** | **References** | **Categories** | **References** |
| Very general (introduction to theories) | 5 | Challenging | 9 |
| Shallow comprehension | 4 | Funny | 7 |
| Most theory has been forgotten | 3 | Fulfilling | 6 |
| Not combined with practice | 2 | Enlightening | 4 |
| Do not know how to use theory | 2 | Know theory better | 3 |
| Confused | 2 | Collaborative | 2 |
| Brief | 1 | Can use them in practice | 2 |
| Abstract | 1 | Well planned | 2 |
| | | Combined with practice | 1 |
| | | Effortful | 1 |

the instruction and their achievement. Only one student described snowballing as an approach that combines theories with practice. It seems inconsistent with students' ratings that the learning of theory was based on practice. This might have been because the relevant open-ended question in the questionnaire did not provide specific directions to guide the students, although the learning of theory was indeed based on interpreting practice as described previously.

As for students' ratings of their satisfaction with and the helpfulness of snowballing, most agree that they were satisfied with the way theory was taught and that snowballing was helpful for theory learning. As can be seen in Figure 6, 17 out of the 20 students agreed or strongly agreed that they were satisfied with the snowballing activity, and all agreed that it was helpful.

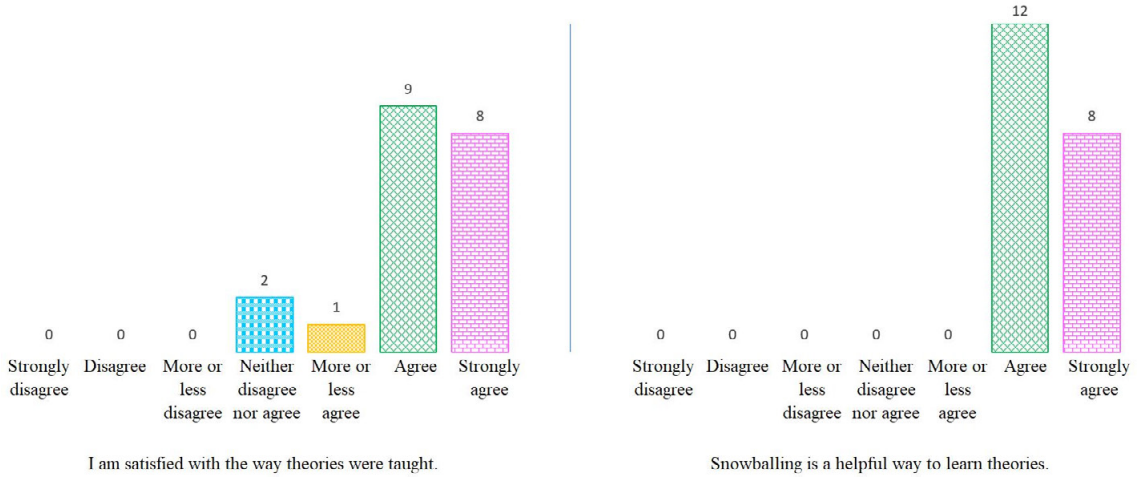


**Figure 6.** Students' ratings of satisfaction with snowballing and its helpfulness.

As for the valued features of snowballing, students' answers were analyzed and presented in Table 3.

The most frequently mentioned feature was collaborative exchange and construction of theory. This was evidenced in two students' responses:

> Learning theories used to mean listening attentively to the instructor's lectures and absorbing them. Snowballing allowed me to be actively involved. I formulated my insights about a theory and then constructed a model with peers. The model was then refined by the instructor. … Towards the end of the semester, when we had covered all theories, I surprisingly found that I could use them to detect problems encountered in my interpreting practice… (student 10)

> What I valued in snowballing was to construct a theory of our own based on exchanges of ideas with group members. This enhanced not only our understanding of theory but also our interest in theory. I think this is excellent. At the beginning of the course, I thought theory

**Table 3.** Valued features of snowballing.

| Categories | References |
|---|---|
| Collaborative exchange and construction of theory | 16 |
| Presentation of theory in mind maps | 6 |
| Division of reading tasks | 4 |
| Self-reflections on interpreting | 2 |

> was the foundation of practice (but how? No ideas.). After experiencing theory construction in snowballing, I realized that theory can be and should be used to reflect on practice. My knowledge of the role of theory is no longer an abstract idea but a guiding tool. (student 12)

The next theme concerns the presentation of theory in mind maps. For example, three students commented on the use of mind maps this way:

> The use of mind mapping changed the usually dull and dry way of teaching. It was interactive and encouraged deep thinking. The theories learned this way can really help my practice. (student 3)

> By working together to formulate mind maps, I had a deeper understanding of theory. Using them as prompts, I can reproduce the theories in my own words. (student 19)

> Instead of passive reading and memorizing, theory was subconsciously internalized in the process of discussions and making mind maps. (student 9)

Another two features that students favoured were division of readings and self-reflection. Here are some quotations from the students:

> We can learn more in a shorter period of time. I consider it a valuable activity. I can understand theory that I did not read by snowballing with peers. This is not only efficient but also interesting. (student 17)

> The volume of reading was compressed, but we had learned just as much. (student 9)

> Self-reflections helped me notice problems that I had ignored; for example, psychological problems and their triggers. I focused too much on practice without thinking of its effect. By listening to recordings of my interpreting performance, I could check if I had used a strategy appropriately for a given problem and if there was a better one. (student 18)

The current findings support previous studies on students' perceptions relating to theory teaching, indicating that students have preferences regarding the methods in which theory is taught (Hao, 2019; Ordóñez-López & Agost, 2014, 2022; Shih, 2011; Tryuk, 2011). Previous studies indicate that a transmissionist approach is disliked by students (Giczela-Pastwa, 2017; Wali, 2015). Based on previous efforts, the current study has generated evidence that a transformationist approach such as snowballing is well-received among students.

Could it be possible that it was no prior knowledge of interpreting theories that influenced the participants' perceptions of their snowballing experience? In other words, could the excitement or enthusiasm of learning new knowledge have had an impact on their perceptions of snowballing? This assumption can be ruled out for the following reasons. Firstly, the findings concerning students' positive reactions to snowballing are not inferred from indirect evidence but generated from direct evidence on snowballing, for example, students' rating (quantitative data) and verbal reports (qualitative data) on snowballing as compared with the prior approach to theory teaching, students' ratings of satisfaction with snowballing and its helpfulness, and students' reports on the valued features of snowballing. Students' positive perceptions of snowballing are also substantiated by other quantitative data, for example, the difference in competences between pre- and post-tests, as reported in the following section. It can be easily noted that students' ratings and comments are not about the excitement or enthusiasm of learning new theories, but about the snowballing activity. Secondly, the current study follows the norm of examining the effectiveness of a pedagogical intervention in educational studies, namely, the elicitation of empirical evidence on students' progress in competence (quantitative data) and their reactions to the pedagogical intervention (qualitative data). In most if not all studies on instructional effectiveness, the variable of content (whether it is new knowledge or not) is usually not considered because most if not all lessons, theory-oriented ones or skill-oriented ones, aim to teach new knowledge instead of repeating learned stuff. The assumption on the impact of the excitement or enthusiasm of learning new things on students' perceptions of snowballing exaggerates the influence of the former. Since lessons aim to teach new knowledge, if the excitement or enthusiasm of learning new knowledge could influence how students perceive the teaching approach, all previous studies would have shown that both teaching approaches (the transmissionist and transformationist approach) are rated as positive by students. However, this is not the case. Previous studies have suggested that a deductive, transmissionist approach to theory teaching is not well-received among students (Giczela-Pastwa, 2017; Hao, 2019; Wali, 2015). This indicates that students' emotions in learning new theories did not shape their perceptions of the instructional approach. That said, the chances are low that students have positive perceptions of snowballing simply because the theories taught to them are new. Therefore, no prior knowledge of the interpreting theories could not have been a possible variable that had influenced students' perceptions of snowballing. Even if the excitement or enthusiasm of learning something new has had an impact, testing the impact of this extra new variable on students' perceptions can hardly be incorporated into the current research design. Its verification requires separate research in future explorations.

### 7.2 Self-perceived competences

The effect of snowballing on students' self-perceived competences can be seen from the difference in each competence between pre- and post-tests. As displayed in Table 4, students made enormous strides in all competences. The most significant change lay in the ability to categorize common problems in interpreting practice. The results of paired

**Table 4.** Paired-sample t-tests of pre- and post-tests of participants' self-perceived competence (n=20).

| Competences | M | SD | df | t | p sig. (two-tailed) | Effect size (Hedges' g) |
|---|---|---|---|---|---|---|
| Describing the core tenets of the main interpreting theories. | | | | -11.49 | .00 | -3.82 |
| Pre-test | 2.05 | 1.28 | 19 | | | |
| Post-test | 5.95 | .60 | 19 | | | |
| Categorizing common problems identified in interpreting practice. | | | | -12.47 | .00 | -4.17 |
| Pre-test | 2.40 | 1.10 | 19 | | | |
| Post-test | 6.05 | .51 | 19 | | | |
| Evaluating the strengths and weaknesses of personal interpreting performance. | | | | -9.45 | .00 | -2.52 |
| Pre-test | 3.00 | 1.34 | 19 | | | |
| Post-test | 5.85 | .81 | 19 | | | |
| Setting goals and plans for improvement. | | | | -9.96 | .00 | -3.01 |
| Pre-test | 2.65 | 1.31 | 19 | | | |
| Post-test | 5.85 | .67 | 19 | | | |
| Using theory to explain the occurrence of interpreting problems. | | | | -13.08 | .00 | -3.82 |
| Pre-test | 2.25 | 1.21 | 19 | | | |
| Post-test | 5.85 | .49 | 19 | | | |
| Applying theory to assess the impact of inadequate interpreting on interpreting quality or communication. | | | | -10.66 | .00 | -3.64 |
| Pre-test | 2.35 | 1.23 | 19 | | | |
| Post-test | 6.00 | .65 | 19 | | | |
| Using theory to justify the use of appropriate strategies in interpreting. | | | | -10.66 | .00 | -3.51 |
| Pre-test | 2.25 | 1.25 | 19 | | | |
| Post-test | 5.90 | .72 | 19 | | | |
| Recognizing the contribution of interpreting theory to skill acquisition. | | | | -9.49 | .00 | -2.92 |
| Pre-test | 2.65 | 1.46 | 19 | | | |
| Post-test | 6.05 | .69 | 19 | | | |

sample t-tests reveal that the differences in the students' progress between pre-test (M=2.40, SD=1.10) and post-test (M=6.05, SD=.51) are statistically significant, t(19)=-12.47, p=.00. The effect size is very large (Hedges' g = -4.17). The students' gains in the other seven competences are all large, with the effect sizes ranging from -3.82 to -2.52. Therefore, the results indicate that snowballing has a substantial effect on students' self-perceived

competences. This might be related to the valued features of snowballing, as described previously. The current study provides evidence that snowballing has a significant effect on students' learning outcomes.

### 7.3 Motivation

As regards students' motivation to learn theory, the degree of difference between pre- and post-test questionnaires varies. Although the significance levels for the four types of motivation were greater than .05, the effect sizes for identified regulation (personally identifying with the value of learning theory) and intrinsic motivation (having satisfaction and enjoyment in learning theory) are larger than .20. In educational research, an effect size of .20 resulting from pedagogical interventions is an indicator of policy interest (Hedges & Hedberg, 2007). As can be seen in Table 5, the difference in intrinsic motivation between pre-test (M=4.45, SD=1.88) and post-test (M=5.10, SD=.79) is not significant, t(19)=-1.60, p=.13. The effect size is medium (Hedges' g= -.44). The difference in identified regulation between pre-test (M=5.60, SD=1.05) and post-test (M=6.10, SD=.64) is also not significant, t(19)=2.30, p=.06. The effect size is medium (Hedges' g= -.56). Since a small sample size increases the likelihood of producing a p-value of above .05 even if the effect magnitude is large (Durlak, 2009), the current level of significance could have been influenced by the small sample size (n=20). Compared with p-value, effect size and confirmation of replication studies are more convincing verifications of a finding (Mellinger & Hanson, 2020). Two studies with a p-value of .06 provide more convincing evidence than one with a p-value

**Table 5.** Paired-sample t-tests of pre- and post-test of the participants' motivation (n=20).

| Motivation | M | SD | df | t | p sig. (two-tailed) | Effect size (Hedges' g) |
|---|---|---|---|---|---|---|
| Because interpreting theory is interesting (intrinsic motivation). | | | | -1.60 | .13 | -.44 |
| Pre-test | 4.45 | 1.88 | 19 | | | |
| Post-test | 5.10 | .79 | 19 | | | |
| Because interpreting theory is good for me (identified regulation). | | | | -2.03 | .06 | -.56 |
| Pre-test | 5.60 | 1.05 | 19 | | | |
| Post-test | 6.10 | .64 | 19 | | | |
| Because it is a compulsory course and I do NOT have any choice (external regulation). | | | | -.75 | .46 | -.16 |
| Pre-test | 2.55 | 1.61 | 19 | | | |
| Post-test | 2.80 | 1.44 | 19 | | | |
| I do NOT have any reason (amotivation). | | | | .61 | .55 | .14 |
| Pre-test | 2.30 | 1.78 | 19 | | | |
| Post-test | 2.10 | 1.02 | 19 | | | |

of .05 (Rosenthal & DiMatteo, 2001). Given the difference observed between the pre-test and post-test and the effect size, we may conclude tentatively that snowballing slightly improved students' intrinsic motivation and identified regulation. This is consistent with the finding in other disciplines that a transformationist approach has a strong effect size (Cohens's d=1.73) on intrinsic motivation (Jeno et al., 2017). To further verify the finding, replication studies can be conducted in future.

For external regulation and amotivation, both p-values are not significant, and their effect sizes are very small, indicating that the snowballing activity did not have an effect on students' external regulation and amotivation.

What deserves attention is the students' limited range of longitudinal change in motivation. The range of difference in intrinsic motivation is from 4.45 (between "neither disagree nor agree" and "more or less agree") in pre-test to 5.10 (between "more or less agree" and "agree") in post-test, and the range in identified regulation from 5.60 (between "more or less agree" and "agree") in pre-test to 6.10 (between "agree" and "strongly agree") in post-test. This indicates that students' intentions to learn theory have been driven firstly by identified regulation, followed by intrinsic motivation, both before and after snowballing. Similarly, the limited range of differences in external regulation (learning theory to avoid negative influence or to gain external rewards) and amotivation (having no intrinsic or extrinsic motivation) between pre- and post-test results (all between 2 "disagree" and 3 "more or less disagree") indicates that students' intentions to learn theories are governed by neither. Since intrinsic motivation and identified regulation are associated with positive learning outcomes while external regulation and amotivation are linked with negative learning outcomes (Guay et al., 2000), the results suggest that the students have the right motivation to learn theory and that positive learning outcomes can be expected if the teaching approach is appropriate.

### 7.4 Attitude towards theory

Students' attitude towards theories is another concern of the current research. As displayed in Table 6, the p-values for the differences in their attitude towards the importance and usefulness of theories between pre-test and post-test are larger than .05. However, as

**Table 6.** Paired-sample t-tests of pre- and post-test of the participants' attitude towards theory (n=20).

| Attitude towards theory | M | SD | df | t | p sig. (two-tailed) | Effect size (Hedges' g) |
|---|---|---|---|---|---|---|
| Interpreting theory is important. | | | | -1.79 | .09 | -.49 |
| Pre-test | 6.00 | .86 | 19 | | | |
| Post-test | 6.35 | .49 | 19 | | | |
| Interpreting theory is useful. | | | | -1.67 | .11 | -.46 |
| Pre-test | 6.05 | .76 | 19 | | | |
| Post-test | 6.35 | .49 | 19 | | | |

discussed previously, since p level is sensitive to sample size while effect size is not, the latter is a better indicator of changes in students' attitude between pre- and post-tests. The small sample size of the current study (n=20) has increased the likelihood of a p-value larger than .05, even if the effect magnitude is large. If the level of .20 is used as a threshold (Hedges & Hedberg, 2007), the effect sizes of snowballing on students' attitude towards the importance and usefulness of theories are close to medium (g= -.49, g=-.46). We may conclude tentatively that snowballing slightly improved students' attitude towards theories.

It is important to note that students' attitude remained very positive (between "agree" and "strongly agree") both before and after snowballing. This confirms the findings of previous studies that students hold a positive attitude towards theory (Agost & Ordóñez López, 2015; Arumí Ribas, 2020; Hao, 2019; König, 2018; Ordóñez-López & Agost, 2014, 2022; Shih, 2011; Sung, 2016; Tryuk, 2011).

The evidence for students' positive attitude is supported by their answers to the open-ended questions in the pre- and post-test questionnaires. Before learning theory through snowballing, students listed seven reasons why theory is important and useful (Table 7). The most frequently mentioned reason is that they believe that theory can guide interpreting practice and learning, which is evidenced by their responses:

> My humble opinion: Interpreting theory is based on frequently encountered problems or phenomena in interpreting practice and thus can be of help for practice. (student 15)

> Personally, theory can explain common phenomena in interpreting, including problems interpreters may encounter in everyday practice. Novice learners, due to their lack of experience, need the guidance of theory to help them cope with problems. (student 2)

Other reasons include increasing professional development abilities in future, improving the ability to solve problems, explaining the interpreting process and phenomenon, and being helpful for graduation thesis writing, as is reflected in their comments:

> Theory makes us better practitioners and helps us pass accreditation tests and grow into professional interpreters. (student 6)

**Table 7.** Attitude towards theory before snowballing.

| Categories | Frequency |
|---|---|
| Guiding interpreting learning and practice | 11 |
| Increasing professional development abilities in future | 3 |
| Improving the ability to solve problems | 2 |
| Compensating for deficiency in skills | 1 |
| Explaining why problems occur in interpreting | 1 |
| Explaining the interpreting process and phenomena | 1 |
| Helpful for graduation thesis writing | 1 |

> Theory helps us choose the right solutions when facing problems in practice. (student 18)
>
> I think theory helps us know more about the whole interpreting process. (student 19)
>
> Learning theory guides not only interpreting practice but also graduation thesis writing. (student 8)

After snowballing, the students had a deeper understanding of the roles of theory because they could list more reasons for its usefulness (Table 8). Some frequently mentioned insights include explaining why problems occur in interpreting, providing a lens for self-reflection, and increasing the ability to solve problems, as is evidenced by their answers:

> With knowledge of theory (and everyday practice), I can diagnose the triggers of problems in my practice and come up with a solution. I have solved most of the problems in my interpreting practice. My interpreting quality is better now. Before learning theory, it was hard to have a rational understanding of the problems and their triggers. The practice efficiency was low, and I got frustrated easily. Now I can solve problems by myself, enjoy everyday training, and feel fulfilled. (student 7)
>
> Interpreting theory gave us a direction for reflecting on practices so that we stayed on track within a learning cycle of practice and reflection and kept making progress. (student 14)
>
> Messages are processed and rendered quickly in interpreting because it is a transient process. In many circumstances, maintenance of problems is hard, and thus it is difficult to analyze the problems and think about how to solve them. Theory provides a lens for me to approach the problems and propose appropriate strategies. It is helpful for such a job of fleeting nature. (student 10)

**Table 8.** Attitude towards theory after snowballing.

| Categories | Frequency |
|---|---|
| Explaining why problems occur in interpreting | 10 |
| Guiding interpreting learning and practice | 10 |
| Providing a lens for self-reflection | 9 |
| Increasing the ability to solve problems | 6 |
| Evaluating the quality of interpreting performance | 4 |
| Important for autonomous learning | 2 |
| Improving the efficiency of communication between peers | 2 |
| Increasing professional development ability in future | 2 |
| Explaining the interpreting process and phenomena | 2 |
| Helping to explain many other things in life | 1 |
| Improving the motivation to learn interpreting | 1 |
| Helpful for graduation thesis writing | 1 |
| Part of the interpreter competence to pass on knowledge and wisdom | 1 |

Other roles of theory mentioned include evaluating the quality of interpreting, being important for autonomous learning, and improving the efficiency of communication between peers. Those are evidenced by the students' answers:

> With theory, we know how to improve our performance because we can evaluate the interpreting quality. (student 6)
>
> Theory informs our practice and helps diagnose problems, which increases our autonomous learning ability. (student 3)
>
> Theory can be a tool that helps us communicate with each other in daily training. It ensures efficient and smooth communication. (student 4)

## 8. Conclusions

The current study is intended to explore the reception of snowballing among students and its effect on their self-perceived competence, motivation, and attitude towards theory.

The results indicate that snowballing is well-received among the participants. Quantitative data suggest that they rate snowballing as a transformationist approach to theory teaching, which is triangulated by their positive comments. They have positive ratings about their satisfaction with snowballing and its helpfulness. Also, they identified four valued features of snowballing: exchange and construction of theory through collaboration, presentation of theory in mind maps, division of reading tasks, and self-reflection.

As for self-perceived competence, paired-sample t-tests indicate that snowballing is effective in enhancing the participants' learning outcomes because of the large effect sizes demonstrated across the differences in eight aspects of competence between the pre- and post-test results.

Regarding motivation and attitude towards theory, paired-sample t-tests suggest that snowballing can improve the participants' intrinsic motivation and identified regulation, though the effect sizes on their changes are small. Quantitative evidence indicates that, with moderate effect sizes on the differences in attitude between the pre- and post-tests, snowballing demonstrates an effect on the participants' attitude towards theories, which is also triangulated by qualitative data. The effect is that their levels of agreement with the importance and usefulness of theory are higher and that they have a deeper understanding of the roles of theory.

The current study is not without limitations. Since a small convenience sample was used, generalization of the findings to cohorts in different contexts should be taken with caution. In addition, it employed a one-group pretest-posttest design due to ethical and logistical concerns. A true experimental design with randomization of participants could have strengthened the conclusions. The limitation of small sample size is prevalent in most if not all studies involving interpreting professionals or students (Liu, 2011; Napier & Hale, 2015), as there is not a large population available for research. The one-group

pretest-posttest design, though not an ideal one, leads to tentative findings which are not otherwise accessible to the scholarly community before a better alternative design is feasible. With the absence of a control or comparison group in the current design, the cause-effect relationship between pedagogical intervention and teaching effect demonstrated is not as strong as one verified through a two-group experimental design. However, since an applied educational context does not allow sample randomization and a control group cannot be obtained (Privitera & Ahlgrim-Delzell, 2019), a two-group experimental design is, unfortunately, not feasible for many if not all educational researchers. Two-group experimental design is possible when the research cycle (implementation of a pedagogical intervention and measurement of its effect) is short, for example, one or two weeks. If it takes a whole semester for an intervention to produce the desired effect, a quasi-experimental one-group pretest-posttest design will be the next-best alternative. For this logistical constraint, about 25% of educational studies are conducted through a one-group pretest-posttest design (Marsden & Torgerson, 2012). To explore if snowballing has a consistent and comprehensive effect, a more feasible choice is to examine, using a similar research design, if an effect can be detected when snowballing is used to teach other theories (translation theories, linguistic theories, educational theories, etc.), which is a direction for future research.

Despite its limitations, the current study has attempted to enhance its validity and reliability by triangulating quantitative and qualitative data. As an exploratory study, it confirms students' positive attitude towards theory. It provides evidence that students' motivation to learn theory includes identified regulation and intrinsic motivation and that a transformationist approach to theory teaching is well received among students and can improve their self-perceived competence, motivation, and attitude to theory. Pedagogically, it is an exploratory attempt to propose a systematic instructional design for theory teaching and test its effectiveness and students' reactions.

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## References

Agost, R., & Ordóñez López, P. (2015). Translation theory: Myths, prejudices and realities. *Babel*, *61*(3), 361-380. https://doi.org/10.1075/babel.61.3.03ago

Altun, S., & Büyükduman, I. (2007). Teacher and student beliefs on constructivist instructional design: A case study. *Educational Sciences: Theory & Practice*, *7*(1), 30-39.

Ambrose, S., Bridges, M., DiPietro, M., Lovett, M., & Norman, M. (2010). *How learning works*. Jossey-Bass.

Arumí Ribas, M. (2020). How command of theoretical concepts contributes to the professional development of future interpreters. *The Interpreters' Newsletter*, *25*, 69-80. https://doi.org/10.13137/2421-714X/31238

Bartrina, F. (2005). Theory and translator training. In M. Tennent (Ed.), *Training for the new millennium* (pp. 177-190). John Benjamins. https://doi.org/10.1075/btl.60.15bar

Bernardini, S. (2004). The theory behind the practice: Translator training or translator education? In K. Malmkjær (Ed.), *Translation in undergraduate degree programs* (pp. 17-30). John Benjamins. https://doi.org/10.1075/btl.59.03ber

Chesterman, A. (2000). Teaching strategies for emancipatory translation. In C. Schäffner, & B. Adab (Eds.), *Developing translation competence* (pp. 77-89). John Benjamins. https://doi.org/10.1075/btl.38.09che

Chesterman, A., & Wagner, E. (2002). *Can theory help translators? A dialogue between the ivory tower and the wordface.* St. Jerome.

Choi, J. (2003). The Interpretive Theory of translation and its current applications. 通訳翻訳研究 [*Interpretation Studies*], *3*, 1-15. http://jaits.jpn.org/home/kaishi2003/pdf/01-choi_final_.pdf

Cintrão, H. P. (2010). Magnifying glasses modifying maps: A role for translation theory in introductory courses. In D. Gile, G. Hansen, & N. Pokorn (Eds.), *Why translation studies matters* (pp. 167-181). John Benjamins. https://doi.org/10.1075/btl.88.15cin

Cownie, F. (2000). The importance of theory in law teaching. *International Journal of the Legal Profession*, *7*(3), 225-238. https://doi.org/10.1080/096959500750143025

Cole, J., & Gonyea, R. (2010). Accuracy of self-reported SAT and ACT test scores. *Research in Higher Education*, *51*(4), 305-319. https://doi.org/10.1007/s11162-009-9160-9

Craik, F., & Lockhart, R. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning & Verbal Behavior*, *11*, 671-684. https://doi.org/10.1016/S0022-5371(72)80001-X

Di Mango, D. (2019). Does teaching theory enhance students' translation competence? *inTRAlinea Special Issue: New Insights into Translator Training*. http://www.intralinea.org/archive/article/2425

Durlak, J. (2009). How to select, calculate, and interpret effect sizes. *Journal of Pediatric Psychology*, *34*(9), 917-928. https://doi.org/10.1093/jpepsy/jsp004

Fox, R. (2001). Constructivism examined. *Oxford Review of Education*, *27*(1), 33-39. https://doi.org/10.1080/03054980125310

Fraenkel, J., Wallen, N., & Hyun, H. (2012). *How to design and evaluate research in education* (8th ed). McGraw-Hill.

Giczela-Pastwa, J. (2017). Translation theory from students' perspective: An indispensable professional prerequisite or a tedious curricular obligation? *Między Oryginałem a Przekładem*, *23*(4), 55-79. https://doi.org/10.12797/MOaP.23.2017.38.03

Gile, D. (1992). Basic theoretical components in interpreter and translator training. In C. Dollerup & A. Loddegaard (Eds.), *Teaching translation and interpreting* (pp. 185-194). John Benjamins. https://doi.org/10.1075/z.56.29gil

Gile, D. (2005). Teaching conference interpreting: A contribution. In M. Tennent (Ed.), *Training for the new millennium* (pp. 127-153). John Benjamins. https://doi.org/10.1075/btl.60.12gil

Gile, D. (2009). *Basic concepts and models for interpreter and translator training* (Rev. ed.). John Benjamins. https://doi.org/10.1075/btl.8

González Davies, M. (2004). Undergraduate and postgraduate translation degrees: Aims and expectations. In K. Malmkjær (Ed.), *Translation in undergraduate degree programs* (pp. 67-82). John Benjamins. https://doi.org/10.1075/btl.59.06gon

Guay, F., Vallerand, R., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The situational motivation scale. *Motivation and Emotion*, *24*(3), 175-213. https://doi.org/10.1023/A:1005614228250

Hao, Y. (2019). Bridging the gap between translator training and practice. *Flinders University Languages Group Online Review*, *6*(1). https://www.researchgate.net/publication/334281837

Hedges, L. (1981). Distribution theory for class's estimator of effect size and related estimators. *Journal of Educational Statistics*, *6*(2), 107-128. https://doi.org/10.3102/10769986006002107

Hedges, L., & Hedberg, E. (2007). Intraclass correlation values for planning group-randomized trials in education. *Educational Evaluation and Policy Analysis*, *29*(1), 60-87. https://doi.org/10.3102/0162373707299706

Inguaggiato, G., Widdershoven, G., & Metselaar, S. (2021). Teaching theories as tools: A pragmatist approach to ethics education. *Bioethica Forum*, *14*(1), 5-19. https://doi.org/10.24894/BF.2021.14002

Jang, H., Kim, E. & Reeve, J. (2016). Why students become more engaged or more disengaged during the semester. *Learning and Instruction*, *43*, 27-38. https://doi.org/10.1016/j.learninstruc.2016.01.002

Jeno, L., Grytnes, J., & Vandvik, V. (2017). The effect of a mobile-application tool on biology students' motivation and achievement in species identification. *Computers and Education*, *107*, 1-12. https://doi.org/10.1016/j.compedu.2016.12.011

Jeong, Y. (2000). 번역 교과의 현실적합성 제고를 위한 일 고찰 [Reflection on translator training programs]. 통번역학연구 [*Journal of Interpretation and Translation Institute*], *4*, 69-86. https://www.earticle.net/Article/A36517

Johnstone, R. (1992). Rethinking the teaching of law. *Legal Education Review*, *3*(1), 1-43. http://www5.austlii.edu.au/au/journals/LegEdRev/1992/2.html

Kanji, G., & Asher, M. (1996). *100 methods for total quality management.* Sage. https://doi.org/10.4135/9781446280164

Kerlinger, F., & Lee, H. (2000). *Foundations of behavioural research* (4th ed.). Cengage Learning.

Kiraly, D. (2000). *A social constructivist approach to translator education: Empowerment from theory to practice*. St. Jerome.

König, F. (2018). *Die Wahrnehmung der Rolle von Theorie in der Ausbildung von KonferenzdolmetscherInnen* [Perceptions of the role of theory in conference interpreter training] [Unpublished MA thesis]. University of Leipzig.

Kuncel, N., Credé, M., & Thomas, L. (2005). The validity of self-reported grade point averages, class ranks and test scores. *Review of Educational Research*, *75*(1), 63-82. https://doi.org/10.3102/00346543075001063

Lederer, M. (1999). The interpretive theory of translation: A brief survey. 통역과번역 [*Conference Interpretation and Translation*], *1*, 15-28. https://www.earticle.net/Article/A8433

Lederer, M. (2007). Can theory help translator and interpreter trainers and trainees? *The Interpreter and Translator Trainer*, *1*(1), 15-35. https://doi.org/10.1080/1750399X.2007.10798748

Lederer, M. (2015). Interpretive theory. In F. Pöchhacker (Ed.), *Routledge encyclopaedia of interpreting studies* (pp. 206-208). Routledge.

Li, D. (2002). Translator training: What translation students have to say. *Meta*, *47*(4), 513-531. https://doi.org/10.7202/008034ar

Liu, M. (2011). Methodology in interpreting studies: A methodological review of evidence-based research. In B. Nicodemus & L. Swabey (Eds.), *Advances in interpreting research: Inquiry in action* (pp. 85-120). John Benjamins. https://doi.org/10.1075/btl.99.08liu

Marsden, E., & Torgerson, C. J. (2012). Single group, pre- and post-test research designs: Some methodological concerns. *Oxford Review of Education*, *38*(5), 583-616. https://doi.org/10.1080/03054985.2012.731208

Marshak, R. (2019). Teaching theory experientially. In G. Schwarz, A. Buono, & S. Adams (Eds.), *Preparing for high impact organizational change* (pp. 44-55). Edward Elgar. https://doi.org/10.4337/9781788116954.00011

Mellinger, C., & Hanson, T. (2020). Meta-analysis and replication in interpreting studies. *Interpreting*, *22*(1), 140-149. https://doi.org/10.1075/intp.00037.mel

Napier, J., & Hale, S. B. (2015). Methodology. In F. Pöchhacker (Ed.), *Routledge encyclopaedia of interpreting studies* (pp. 257-260). Routledge.

Ordóñez-López, P., & Agost, R. (2014). An empirical study of students' views on theoretical subjects. In Y. Cui & W. Zhao (Eds.), *Handbook of research on teaching methods in language translation and interpretation* (pp. 324-345). IGI Global. https://doi.org/10.4018/978-1-4666-6615-3.ch017

Ordóñez-López, P., & Agost, R. (2022). Future translators' views on translation theory. *The Interpreter and Translator Trainer*, *16*(2), 158-176. https://doi.org/10.1080/1750399X.2021.2001189

Orlando, M. (2016). *Training 21st century translators and interpreters: At the crossroads of practice, research and pedagogy*. Frank & Timme.

Pöchhacker, F. (1992). The role of theory in simultaneous interpreting. In C. Dollerup & A. Loddegaard (Eds.), *Teaching translation and interpreting* (pp. 211-220). John Benjamins. https://doi.org/10.1075/z.56.33poc

Pöchhacker, F. (2016). *Introducing interpreting studies* (2nd ed.). Routledge. https://doi.org/10.4324/9781315649573

Privitera, G. J., & Ahlgrim-Delzell, L. (2019). *Research methods for education*. Sage.

Pym, A. (2014). *Exploring translation theories* (2nd ed.). Routledge.

Roberts, R. (1988). The role and teaching of theory in translator training programmes. *Meta*, *33*(2), 164-173. https://doi.org/10.7202/003960ar

Robinson, D. (1997). *Becoming a translator*. Routledge.

Rosenthal, R., & DiMatteo, R. (2001). Meta-analysis: Recent developments in quantitative methods for literature reviews. *Annual Review of Psychology*, *52*(1), 59-82. https://doi.org/10.1146/annurev.psych.52.1.59

Santrock, J. (2004). *Educational psychology* (2nd ed.). McGraw-Hill.

Setton, R., & Dawrant, A. (2016). *Conference interpreting: A complete course*. John Benjamins. https://doi.org/10.1075/btl.120

Setton, R. (2010). From practice to theory and back in interpreting: The pivotal role of training. *The Interpreters' Newsletter*, *15*, 1-18. http://hdl.handle.net/10077/4746

Seung, C., Lee, S., Lee, H., & Jang, H. (2001). 번역 교육 현장에서의 번역물 품질 평가 [Evaluation of translation quality in translation education]. 번역학연구 [*The Journal of Translation Studies*], *2*(2), 37-56.

Shih, C. (2011). Learning from writing reflective learning journals in a theory-based translation module. *The Interpreter and Translator Trainer*, *5*(2), 309-324. https://doi.org/10.1080/13556509.2011.10798823

Shuttleworth, M. (2001). The role of theory in translator training. *Meta*, *46*(3), 497-506. https://doi.org/10.7202/004139ar

Sung, S. (2016). Translation theory and practice in undergraduate classrooms: A case study. 통역과 번역 [*Interpretation and Translation*], *18*(2), 25-45. https://doi.org/10.20305/it201602025045

Takeda, K. (2010). What interpreting teachers can learn from students: A case study. *Translation & Interpreting*, *2*(1), 38-47. https://trans-int.org/index.php/transint/article/viewFile/88/67

Tryuk, M. (2011). The role of theory of interpreting and the training of conference interpreters. *Studia Universitatis Babeș-Bolyai. Philologia*, *56*(1), 105-119. http://studia.ubbcluj.ro/download/pdf/574.pdf

Viaggio, S. (2012, June 28). Do you have a theory of translation? You bet you do. *ATA Spanish Language Division*. https://ataspd.org/2012/06/28/do-you-have-a-theory-of-translation-you-bet-you-do/

Viaggio, S. (2006). *A general theory of interlingual mediation*. Frank & Timme.

Wali, S. (2015). A comparative study of approaches adopted in translator training programmes in the UK. In A. Bączkowska (Ed.), *Perspectives on translation* (pp. 103-126). Cambridge Scholars.

Williams, J. (2013). *Theories of translation*. Palgrave Macmillan. https://doi.org/10.1057/9781137319388

Yan, C., & He, C. (2022). Illuminating Chinese EFL student teachers' paradoxical perceptions of theory learning experiences. *Ethnography and Education*, *17*(1), 71-88. https://doi.org/10.1080/17457823.2021.2005649