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Roiha, Anssi

Routledge
2025-10-02

Roiha, A & Heinonen, P 2025, 'Pre-service language teachers' perceptions of teaching and learning at the outset of their pedagogical studies : exploring metaphors and visualisations', Teaching Education, vol. 36, no. 4, pp. 451-470. https://doi.org/10.1080/10476210.2025.2555217

http://hdl.handle.net/10138/601832
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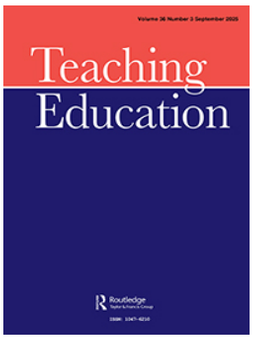

Teaching Education

ISSN: 1047-6210 (Print) 1470-1286 (Online) Journal homepage: www.tandfonline.com/journals/cted20

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To cite this article: Anssi Roiha & Pilvi Heinonen (10 Sep 2025): Pre-service language teachers' perceptions of teaching and learning at the outset of their pedagogical studies: exploring metaphors and visualisations, Teaching Education, DOI: 10.1080/10476210.2025.2555217

To link to this article: https://doi.org/10.1080/10476210.2025.2555217

Published online: 10 Sep 2025.

TEACHING EDUCATION
https://doi.org/10.1080/10476210.2025.2555217

Routledge
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Pre-service language teachers' perceptions of teaching and learning at the outset of their pedagogical studies: exploring metaphors and visualisations

Anssi Roiha [a] and Pilvi Heinonen [b]

[a]Department of Education, University of Jyväskylä, Jyväskylä, Finland; [b]Faculty of Educational Sciences, University Helsinki, Helsinki, Finland

ABSTRACT

Perceptions are believed to guide human behaviour, but also to be shaped by it. It is therefore important to explore pre-service teachers' perceptions of learning and teaching during their period of teacher education. In this article, 67 Finnish pre-service language teachers visualised '*an ideal language learning situation*' and complemented a number of metaphors (e.g. '*A teacher is like . . . '*, '*A learner is like . . . '*) in the first session of their pedagogical studies. The data were coded and analysed thematically. The data provided a somewhat polyphonic view of learning and teaching. More specifically, we identified two main trends, labelled an institutional learning framework, and an interactive and individual-oriented framework. The former was characterised by the central role of the teacher and a lack of student agency, the latter by collaborative learning and differentiation. This study importantly sheds light on the perceptions of learning and teaching that students have when they enter their pedagogical studies.

ARTICLE HISTORY
Received 31 August 2023
Accepted 17 August 2025

KEYWORDS
Metaphors; visualisations; perceptions; pre-service language teachers; teacher education

Introduction

Pre-service teachers enter teacher education with certain perceptions of teaching and learning, often dating back to their own school days, and also reflecting mainstream perceptions in society (Richardson, 1996). It is important to examine the perceptions of pre-service teachers during their studies, as these perceptions guide their thinking and are also shaped, at least to some extent, during their teacher education (Barcelos & Kalaja, 2011; Metsäpelto et al., 2022). In this article, we focus on pre-service language teachers' perceptions of teaching and learning.

A popular research strand in the field of applied linguistics is to study people's understanding and conceptualisation of reality. These can be referred to, inter alia, as beliefs (e.g. Barcelos & Kalaja, 2011), views (e.g. Roiha, 2014) or perceptions (e.g. Kuteeva et al., 2020). In this study, we refer to the phenomenon with the term perceptions, which is commonly used with pre-service teachers (e.g. Barkhuizen & Feryok, 2006; Fajet et al.,

CONTACT Anssi Roiha anssi.s.roiha@jyu.fi Department of Education, PO Box 35, FI-40014 University of Jyväskylä, Finland

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

2005). In applied linguistics, perceptions have garnered a lot of research interest, as they are believed to guide human behaviour, but also to be shaped by it (Barcelos & Kalaja, 2011). Thus, for example, how language teachers understand learning may have an impact on their teaching practice (Alanen et al., 2013). This makes it important to examine future teachers' perceptions of learning and teaching during their teacher education. Although we focus on pre-service language teachers' perceptions of teaching and learning, the findings bear relevance for general teacher education, as the main findings of our study are in many respects related to general didactical questions concerning, for instance, the teacher-student relationship and learning environments.

The research we report in this article is part of the research tradition, which seeks to qualitatively address the perceptions of pre-service language teachers. More specifically, we rely on a contextual view of perceptions, according to which they are complex, situational, and dynamic, and can also be partly contradictory, unconscious, and latent (Barcelos & Kalaja, 2011; Dufva et al., 2003). In the light of this framework, perceptions are constructed and shaped in a socio-cultural environment (Alanen, 2003), they are polyphonic (Aro, 2012) and they may manifest a certain historical stratification and long-standing cultural discourses and ideologies (Mäntylä et al., 2023). In this article, we use metaphors and visualisations produced by the participants as research material to delve into their perceptions. More precisely, we explore how the participants describe and depict learning and teaching at the outset of their studies. The specific research question for the article is:

> *What kind of perception of learning and teaching is reflected in the metaphors and visualisations produced by the participants (n = 67) at the outset of their pedagogical studies?*

Uncovering perceptions by using metaphors and visualisations

In this literature review, we first focus on metaphors, and then visualisations. In both sections, we begin with a brief discussion of the topic as a data collection method. We concisely summarise the most relevant studies using metaphors and visualisation in general education and then focus on those specifically concerning language teachers.

Metaphors

The proliferation of metaphors as a research instrument has been particularly influenced by Lakoff and Johnson's (1980) seminal conceptual metaphor theory. The theory assumes that metaphors are ubiquitous in our lives and shape our perceptions and actions, often unconsciously. Similarly, Bateson (1994) claims that 'the human species thinks with metaphors and learns through stories' (p. 11). Metaphors function as mirrors through which one thing is understood in terms of another (Lakoff & Johnson, 1980). Often it entails the juxtaposing of an unknown phenomenon with a known one, and drawing analogies and making associations between them (Quale, 2002).

Metaphors have been widely used to gauge the perceptions of both in- and pre-service language teachers (e.g. de Guerrero & Villamil, 2002; Farrell, 2006; Lin et al., 2012; McGrath, 2006; Pinho, 2019; Saban, 2006; Salo, 2010). Metaphors are considered to unveil teachers' implicit beliefs and attitudes related to teaching and learning (Wegner et al., 2020), which

in turn often manifest in their teaching praxis (McGrath, 2006). Metaphors have been used to construct the teaching philosophies of future teachers (e.g. Määttä et al., 2020), to describe teachers' professional identities (e.g. Thomas & Beauchamp, 2011) and as a tool of reflection in teacher education (e.g. Perry & Cooper, 2001). Clandinin and Connelly (2000), who have used metaphors in teacher research, argue that teachers often rely on metaphors when reflecting on their work. They have coined the metaphor of 'professional knowledge landscape' to describe the complexity of teachers' stories conveying their professional knowledge related to in and out of classroom environments (Clandinin & Connelly, 1998). According to Craig (2018), metaphors serve as proxies for teachers' experiences. In relation to teachers' knowledge, Munby and Russell (1990) draw on Schön's (1983) work to talk about 'reframing', which they define as 'the familiar process in which an event over which we have puzzled for some time suddenly is "seen" differently and in a way that suggests new approaches to the puzzle' (p. 116). Therefore, they call for paying conscious attention to the metaphors used by teachers and seeking alternative metaphors to provide a better perspective on the potential strengths and weaknesses of the existing metaphors, possibly resulting in novel thinking.

Metaphors can be collected for research in many ways. Löfström et al. (2015) distinguishes between conventional and novel metaphors. The former are assumed to permeate our language use and are used unconsciously, whereas the latter are deliberately created to highlight certain aspects of a phenomenon. Metaphors can be collected either orally (e.g. interviews; Thomas & Beauchamp, 2011) or in written form (e.g. Lin et al., 2012). In this study, we rely on novel metaphors in written form.

Metaphors have been used with class teachers and subject teachers in many countries. Kasoutas and Malamitsa (2010) examined Greek teachers' perceptions relying on metaphors. The most often used metaphors were a gardener, a guide, a researcher and a parent. The participants seemed to have adopted a mindset of facilitating the learning process instead of dictating it, as metaphors related to the teacher as knowledge provider were scarce. Tannehill and MacPhail (2014) investigated the metaphors produced by pre-service teachers in Ireland and how they changed during their studies. Many pre-service teachers came to their studies with more traditional conceptions of teaching, for example, they saw themselves as mediators of knowledge. However, as a result of their studies, several of them began to perceive teaching in a more student-centred and individualised way. Eren and Tekinarslan (2013) examined Turkish pre-service teachers' teaching-related metaphors. The researchers formed categories from the participants' metaphors. A teacher was depicted as a loving and caring person, a source of knowledge, and a guide. Teaching was described as an art, a constructive and a joyful process. Learning was referred to as a challenging and explorative process and as a basic human need. Thomson (2016) investigated the perceptions of teaching and learning of pre-service teachers in the United States. The results showed that the pre-service teachers had two opposing types of schooling perceptions: that is, student-centred and teacher-centred perceptions. A slightly different approach to metaphors was taken in a study by McCandless et al. (2025), which examined the types of teacher metaphors reflected in an Australian policy document aimed at strengthening teacher education to better address the demands of the profession. The authors concluded that the main metaphor categories reflected in the policy document (i.e. teacher as saviour, teacher as victim and teacher as compliant) are in stark contrast to the early-career teachers' own metaphors,

which emphasise themes such as growth and nurturing, guiding on the right path, or transmitting knowledge (see also Eren & Tekinarslan, 2013; Kasoutas & Malamitsa, 2010). Thus, Australian policy makers and working teachers seem to conceptualise effective teaching in very different ways, as described by metaphors.

With regard to in-service language teachers, for instance, de Guerrero and Villamil (2002) explored English teachers' perceptions of themselves as teachers through metaphors. The authors formed nine metaphor categories based on the participants' metaphors, which were as follows: 1) co-operative leader, 2) provider of knowledge, 3) challenger/agent of change, 4) nurturer, 5) innovator, 6) provider of tools, 7) artist, 8) repairer, and 9) gym instructor. Out of the above, teachers most commonly saw themselves as a co-operative leader, provider of knowledge, challenger/agent of change, nurturer or artist. De Guerrero and Villamil (2002) suggest that the teachers' metaphors reflected conventional conceptualisation of teaching and learning English, with the provider of knowledge being an apt example. The authors interpreted the metaphors to be to some extent culturally and contextually bound. Moreover, they acknowledge that the metaphors were complex and contained multiple elements which posed a challenge to their categorisation.

Salo (2010) explored the teaching perceptions of 23 Finnish teachers of Swedish through metaphors. More than half of the teachers saw themselves in a very negative light and the metaphors highlighted the challenge of the job. The teachers described themselves with metaphors such as '*an enemy to be defeated*', '*a slave driver*' or even '*hazardous waste, dangerous to his/her environment and a nuisance*'. The negative attitudes of many teachers could be at least partly explained by the polemic status of Swedish language in Finland and in Finnish education (see e.g. Halonen et al., 2015). Some teachers, however, had a more positive attitude towards Swedish teaching, as evidenced by the metaphors '*bridge builder and door opener between two cultures*' or '*garden cane along which language skills grow and blossom if the roots are in good condition*'.

Pre-service language teachers' perceptions have also been the scope of many studies. Lin et al. (2012) used metaphors to examine pre-service English language teachers' perceptions of themselves as teachers. The authors drew heavily on de Guerrero and Villamil's (2002) metaphor categories and incorporated their participants' metaphors in them. The most common metaphor categories were nurturer (e.g. *gardener*, *parent*), co-operative leader (e.g. *tour guide*, *ship captain*), and provider of knowledge (e.g. *broadcaster*, *musician*). According to Lin et al. (2012), students presented themselves in a rather traditional role of a teacher, which is in line with de Guerrero and Villamil's (2002) findings. On the other hand, the metaphors also reflected the notion of students as active agents who take responsibility for their own learning, representing a more modern conception of learning and teaching.

The metaphor studies have been interested not only in the perceptions of pre-service teachers, but also in how they change during the course of their studies. In Farrell's (2006) study, three future English teachers produced metaphors before their teaching practicum and returned to reflect on them after that. Farrell (2006) formed three broad metaphorical categories from the students' metaphors: 1) social order, 2) cultural transmission, and 3) learner-centered growth. The students were also asked to analyse the metaphors they produced and provide justifications for them. Two of the students' metaphors remained the same even after their teaching practicum, while one student had changed their

preconceptions as a result of the practicum. The student had originally described the classroom as '*a battlefield*', and said that their perception was partly shaped by their own school experiences. However, the teaching practicum period had changed the student's perception of teaching and they no longer subscribed to their initial metaphor.

A slightly different approach was taken in Turunen and Kalaja's (2004) study, which mapped future English teachers' views about their own primary and secondary school English teachers using metaphors. The researchers created six metaphor categories based on the metaphors used by the participants: 1) demigod, 2) motivator, 3) factory worker, 4) patience tester, 5) witch, and 6) the target of bullying. The study interestingly showed how pre-service teachers have experience of different types of English teachers, which is something that they can take advantage of when shaping their own teaching philosophies.

Visualisations

Visualisations have been used to some extent in teacher education to capture the perceptions of student teachers. Visual methods, it has been argued, can offer participants an alternative way of expressing themselves than through written or oral means. In addition, some people may find it more natural to express their feelings and perceptions visually (Kalaja & Pitkänen-Huhta, 2020; see also Kress & van Leeuwen, 2006). Dufva et al. (2011) suggest that visual methods can offer different perspectives and uncover certain specific features of people's perceptions that are not necessarily captured in writing or through interviews. Eilam and Ben-Peretz (2010) noted 15 years ago that visuality has started to govern everyday life and be increasingly present, for example, in communication, especially among young people. This trend has only accelerated, given the different contemporary communication channels that rely heavily on visuals, such as Instagram, Snapchat, YouTube, Tiktok or Facebook (Kalaja & Pitkänen-Huhta, 2020). This has also contributed to the increased use of visual research methods.

In Shin and Alpern's (2024) study, pre-service teachers in the United States were asked to draw themselves teaching. Based on the drawings, and related interviews, the participants had mainly positive views of teaching. Even though classrooms in the drawings were somewhat traditional, many participants emphasised student-centred learning and a positive classroom environment. In Beltman et al.'s (2015) study, Australian pre-service teachers drew themselves as the teacher they hoped to become before their first teaching practicum. The drawings reflected a positive relationship with students and confident teachers. In most of the drawings, the teacher was central and in charge of the learning process. There was little evidence of negative aspects or challenges, suggesting a somewhat idealistic view of teaching. In Bennett's (2015) study, Australian pre-service teachers drew a teaching situation. Almost a third of the participants drew only themselves without any students. Just over a third of the participants included students in their drawings. In many of these drawings there was no interaction between the students and the teacher, and the teacher played a central role in front of the classroom. Sinclair et al. (2013) asked pre-service teachers in the United States to draw a teacher teaching. They analysed whether the drawings showed a teacher-centred or a learner-centred approach to teaching, or a combination of both. Half of the participants' drawings reflected a combination of both teacher-centred and student-centred approaches. However,

approximately 40 per cent of the drawings were categorised as purely teacher-centred, and approximately only 10 per cent were purely student-centred.

The use of visual methods, especially in applied linguistics, has mushroomed in recent years (e.g. Chik & Melo-Pfeifer, 2020; Kalaja & Melo-Pfeifer, 2019). Kalaja and Pitkänen-Huhta (2018) have even coined the term 'visual turn' to denote the prominence of visual methods in applied linguistics. Scholars have examined the perceptions of young children (e.g. Mäntylä et al., 2023), adolescents (e.g. Skinnari, 2019) and adults (e.g. Mäntylä & Kalaja, 2019) through visual methods. The present study is particularly inspired by studies by Alanen et al. (2013), as well as Mäntylä and Kalaja (2019). In Alanen et al.'s (2013) study, 62 pre-service language teachers visualised a language lesson in the near future and briefly commented on it in writing. The participants' outputs were analysed in terms of the learning environment, teacher–student relationship and learning tools. The visualisations mostly contained aspects and elements of traditional classrooms, such as chalkboards and desks. However, some visualisations also contained more modern elements such as less formal learning environments. The teacher was present in almost all visualisations as a facilitator of the learning process. Approximately one fourth of the participants had included a textbook in their visualisations, but the presence of ICT equipment was quite limited.

Similarly, Mäntylä and Kalaja's (2019) study explored future English language teachers' ($n = 67$) perceptions of language teaching through visualisations. The students' task was to visualise '*an English class of my dreams*' and complement it with writing. From the data, the researchers formed five quite distinct categories related to the teaching of English: 1) the use of language in communication and interaction, 2) the focus on culture, 3) the analysis of language and meta-linguistic awareness, 4) English as a tool for content learning (e.g. CLIL), and 5) language as discrete linguistic elements to be learned (e.g. grammar, vocabulary).

The present study differs from Alanen et al.'s (2013) and Mäntylä and Kalaja's (2019) studies in that the data were collected at the outset of the participants' pedagogical studies without any educational courses or teaching practice. Moreover, Alanen et al.'s (2013) study was conducted over 10 years ago and it is therefore interesting to see whether our findings are in line with theirs and whether our data reflect more recent trends in (language) learning and teaching. We also wanted to make sure that our instruction (see the Methods section) would prompt students to convey their perceptions of an ideal language learning situation as opposed to a typical lesson, the content of which may be influenced by certain practical issues and the lack of teaching resources.

Combining metaphors and visualisations

Most previous studies have used either metaphors or visualisations separately, and not combined these two methods of data collection. However, it should be noted that the boundary between metaphors and visualisations is to an extent fluid and fuzzy. For example, Määttä et al. (2020) have argued that drawings can also be interpreted as metaphors. As an exception, Pinho (2019) combined these two data collection methods and focused on future English teachers' teaching practices through metaphors and their visualisations. At the beginning of the course, the participants were asked to generate a metaphor for English teaching, justify it, and visualise it. The participants also reflected

on their output in a small group discussion and returned to it at the end of the course. During the course, the participants' understanding of teaching evolved and they completed their initial outputs or produced a completely new metaphor and associated visualisation. Among other things, the students broadened their concept of culture, which initially appeared rather static and homogeneous (Pinho, 2019). Similar to Pinho (2019), we also combine metaphors and visualisations as data in order to gain a diverse picture of the students' perceptions of learning and teaching. However, cross-examining the metaphors and visualisations of individual participants was not the scope of this research. Instead, we have analysed both sets of data in parallel and identified thematic connections between them. We wanted to see what trends emerge collectively from the different types of data. In the following section, we elaborate on the data collection and analysis process of our research.

Methods

The participants of the study are 67 pre-service language teachers who were completing their one-year pedagogical studies at a Finnish university. Most of them had no prior teaching experience or pedagogical studies. Of the participants, 22 were students of Finnish language and literature education, and 45 were students of foreign languages (i.e. English, Swedish, German, French, Russian, Spanish and Latin). The data were collected as part of the participants' subject didactics courses. The participants signed a consent form to participate in the study and they were given a privacy notice which explained the data use and storage. It was also clearly communicated to the participants that they had the right to withdraw from the study at any stage without consequences. Participation or non-participation in the study also had no impact on the students' evaluation in the course. Seven students did not give their permission to use their metaphors or visualisations as data for this study. The results of the present study are reported anonymously and no individuals can be recognised from the data. The participants' confidentiality was also protected by the fact that they had not seen each other's outputs.

As the first task, the participants were asked to visualise an ideal language learning situation in the first session of their studies. The idea was to get a grasp of the participants' perceptions of teaching and learning at the outset of their studies. The participants were given the choice to produce different types of visualisations (e.g. drawings, cartoons, copy-pasted pictures from the internet, or collages of several pictures). A little over half of the participants produced multimodal outputs (i.e. visualisation and its verbal description), which provided more insights into the analysis and interpretation of the visualisations (see also Kalaja & Mäntylä, 2018). The participants had added writing to visualisations they had drawn themselves and to images or image collages they had found on the internet. They had complemented their visualisations either with single words or some had written a brief explanation of their visualisation. For instance, many participants had described in writing that their visualisations included native speakers or teaching pronunciation, which confirmed the presence of these topics in the data. Additionally, student-centredness occurred as a word in many visualisations, which reinforced the notion of this approach in addition to the active role of the students in the visualisations.

As the second task, the participants had to complete a number of school and teaching-related metaphors ('*A teacher is like…*', '*School is like…*', '*A learner is like…*', '*Education is*

like. . .', '*Learning is like. . .*' and '*An ideal learning situation is like. . .*').[1] They were given the choice to continue the metaphors with single words or long phrases.

The data were analysed thematically (Braun & Clarke, 2006). First, we coded the data separately and then compared our findings to check for consistency, and together formed the main themes of the study. The thematic analysis was informed by broad theoretical views on (language) learning (e.g. socio-constructivist approach to learning, communicative language teaching), but it nevertheless relied extensively on the data. In the metaphors, we concentrated on the linguistic formulation of the roles of the teacher and learner and their relationship, as well as the descriptions of the learning process. In the visualisations, in turn, we were particularly interested in the elements of learning that were present or absent in them in relation to current trends in the field of language teaching research. More specifically, we paid attention to the learning environments and artefacts, the relationships and roles between students and teachers, and the working methods.

Results

Overall, the data provided a very multifaceted view of teaching and learning that had aspects of both traditional and more modern trends. We identified two main frameworks from the data, which we have labelled an institutional learning framework, and interactive and individual-oriented framework. The former was characterised, for instance, by the central role of the teacher in guiding the learning process with a lack of student agency as well as textbook-based learning. In the latter, collaborative learning and differentiation were the key themes. In this section, we present the main findings of this study in accordance with the above-mentioned frameworks and associated themes.

Institutional learning framework

In several visualisations of the ideal language learning situation, the roles of the teacher and students and the learning environment were depicted in a very traditional way. The teacher was rather often standing at the front of the class and the students sitting at their desks reflecting the frontal teaching style. With a few exceptions, the teacher had a visible and central role in almost all visualisations, actively guiding the learning process. Figure 1 illustrates a visualisation linked to this framework.

In this visualisation, the learning situation seems to be structured in a teacher-led way, for example, with the students' answers going through the teacher (i.e. the teacher asking in the speech bubble 'Who would like to share their views?' and the students asking for a turn by raising their hand). The teacher is even using a pointing stick, symbolising the traditional role of the teacher as a distributor of knowledge. It should be noted, however, that the perspective of the drawing, with the students in the foreground, and some of the details, provide opportunities to interpret the image in a more nuanced way. There are also elements of individuality in the picture, as the texts in the students' thought bubbles reflect different learning orientations: for example, activity and participation. Interestingly, the individuality of the students is explicitly described as thought bubbles and not as

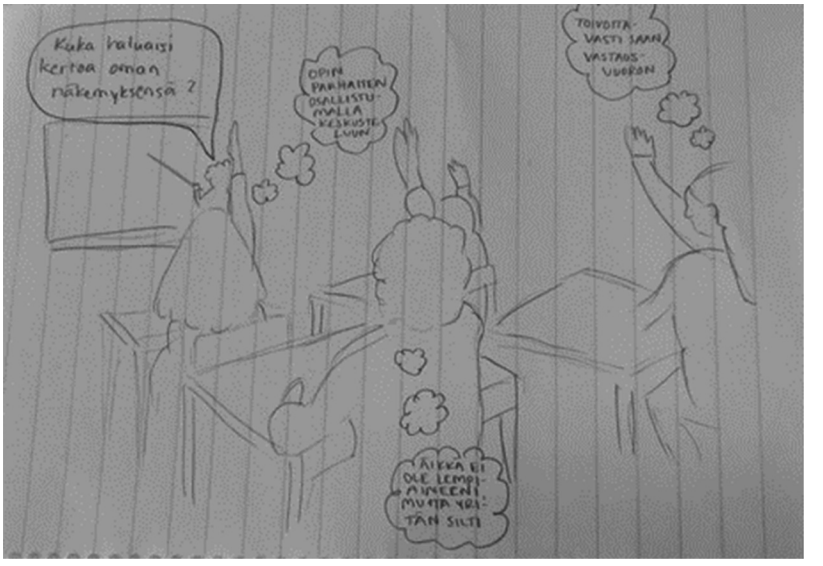

Figure 1. A participant's visualisation in which the teacher has a central role.

speech acts, which contributes to the interpretation of the two-fold nature of the image, but also to the distinct institutional roles of the teacher and the students. Overall, the setting of the image of the learning situation is thus complex but nevertheless quite traditional in its starting point and can therefore be seen as primarily reflecting an institutional framework of learning.

Similarly, in the metaphors of this framework, the teacher's strong agency was also evident, for instance, in the frequent themes of growing, cultivating and nurturing. In some cases, the learner was also referred to directly in these metaphors, although the learner and their needs were described as the background against which the role of the teacher was projected, as illustrated by the following example: '*The teacher is like a gardener, who cares for, nurtures and gives their plants the right building materials so that they grow into strong and robust trees and bushes. A skilled gardener also recognises the needs of their plants and can adapt their care to those needs*' (participant 18). The teacher was also often described as a knowledge authority, for example, as '*an encyclopaedia*' (participant 53, participant 55) and as '*an endless knowledge bank with answers to everything*' (participant 47), reflecting the asymmetrical orientation of knowledge in the classroom. These types of metaphors also highlight the institutional roles of the teacher and students. A similar ethos was also reflected in some of the '*A learner is like . . . '* metaphors that described the learner as a passive recipient instead of an active agent. Examples of this were the metaphors describing the learner as '*a malleable vessel*' (participant 27) or '*a sponge that absorbs knowledge from around it*' (participant 52). Sometimes, however, the metaphor of the sponge, for example, was also harnessed to describe a more active agency and processual knowledge construction: '*the learner is like a sponge that receives and processes new information constantly*' (participant 4).

The data often contained some very conventional symbols related to learning and learning situations. A very frequent image in the visualisations was the lighting of a lamp

Figure 2. A participant's visualisation of a lamp lighting up.

(see Figure 2). Some metaphors also echoed this idea, for instance '*learning is like an enlightenment*' (participant 37) or '*like a light bulb going on*' (participant 58). We interpreted this type of view of learning as implying a momentary, one-off and transient process, therefore being partly at odds with the ideal of continuous learning. The lighting of a lamp to illustrate a learning situation was particularly frequent in the image collages. In part, this also reflects the limitations of our study, as it is possible that the participants may have chosen rather conventional images of learning and learning situations for their visualisations. These may have become more prominent when searching for certain keywords in image banks.

Other metaphors that did not reflect the ideal of continuous learning were those that described learning as an arduous and exhausting process that ends in achievement or accomplishment. Examples of this were, for instance: '*learning is like a marathon: it can be painful, but you can often be proud of yourself at the end*' (participant 6), '*learning is like a labyrinth: it is a long road but in the end you get there*' (participant 52) or '*learning is like a thick book. Sometimes you just want to skip straight to the end*' (participant 23). This reflects, on the one hand, the notion of the learning process as goal-oriented but, on the other hand, not as a continuous and dynamic process but rather one with a limited duration and a clear and predefined end point.

In addition to general perceptions of teaching and learning, we also analysed perceptions of (foreign) language teaching and learning. One prominent feature in the visualisations was the presence of textbooks, which represents a somewhat traditional and institutional view of language learning (see also Alanen et al., 2013). One explanation for this could be that Finnish education has traditionally been strongly textbook-oriented (e.g. Dufva et al., 2003; Moate, 2021; Tainio et al., 2015). Another reference to the traditional way of teaching languages in particular was the fragmentation of language into separate sub-areas, such as grammar, vocabulary or pronunciation (see also Mäntylä & Kalaja, 2019). The visualisations contained many written references to these sub-areas.

We interpreted this as implying a mechanistic approach to learning, where learning is seen as the mastery of discrete aspects of a language rather than as a holistic and functional activity.

Some students had included cultural references in their visualisation, which also came up in Mäntylä and Kalaja's (2019) study. However, culture appeared in a rather traditional way in the students' visualisations, and different languages were associated with specific nation-states. Therefore, the visualisations depicted somewhat essentialist underpinnings of culture (e.g. Hofstede, 2003), manifested, for instance, by flags or famous monuments as national symbols (see also Pinho, 2019). One participant had supplemented their visualisation by writing that '*it is important to teach the culture of the country of the language being studied*', which is a rather problematic sentence from the point of view of critical intercultural communication (e.g, Piller, 2017) as, on the one hand, it assumes that a language is only spoken in one country and, on the other, that the country has only one culture that can be taught to students.

Related to this is the ideology of native speakerism that was evident in some of the participants' outputs. For instance, one student had complemented their visualisation with the following description: '*A nice addition to teaching would be a visit from a native speaker and a look at their culture or the teacher could also take advantage of their own roots, if they are native*'. Native-speakerism and the native speaker ideology is nowadays a highly problematised way of thinking in the field of applied linguistics (e.g. Choi, 2016; Holliday, 2006). Holliday (2009), among others, has aptly noted how native speakers of English, for example, are associated with an ideal image of the white Anglo-Saxon person, which marginalises other types of language users. In addition, the above quotation is a further example of an essentialist view of culture as it once again focuses on a single culture and associates it with a particular nation-state.

Finally, the participants' products contained hardly any traces of translanguaging (Vogel & García, 2017). Only Finnish (L1) and the target language (L2) appeared in most of the products, and those languages were kept separate. This may be partly explained by the fact that students often encounter the concept and idea of translanguaging for the first time during their pedagogical studies. Despite the fact that it has received much attention in the context of Finnish language education (e.g. Ennser-Kananen et al., 2021; Finnish National Board of Education, 2014), translanguaging pedagogy is still often poorly and incompletely implemented in practice (e.g. Pitkänen-Huhta, 2021).

Interactive and individual-oriented framework

In contrast to the institutional learning framework, we detected also more progressive and modern elements of (language) teaching from the data. We have labelled this framework an interactive and individual-oriented framework, characterised, for instance, by a more equal role of the teacher and students, collaborative learning and students' individuality. In the following, we discuss these aspects of the data in more detail.

In this framework, the role of the teacher was described from the perspective of guiding the learning process. For instance, the following types of metaphors were very common: '*A teacher is like a guide*' (participant 56), '*a map-reader*' (participant 49) and '*a coach of a hockey team who guides and encourages but also takes a time-out if necessary*' (participant 67). The concept of learning and teaching reflected in these metaphors is in

line with the student-centred pedagogical approach that has long prevailed in the Finnish school system and curriculum guidelines (e.g. Atjonen et al., 2008; the; Finnish National Board of Education, 2014). In this approach, the role of the teacher is seen more as a supporter and facilitator than a purveyor of knowledge. Many participants explicitly referred to the role of the teacher as a supporter in their metaphors (see also Salo, 2010), for instance: '*A teacher is like a plant support stick in the garden*' (participant 38) or '*a supporting pillar on the learning path*' (participant 33).

Many of the metaphors describing the learner implied a student-centred pedagogy which emphasises student agency and participation. Examples of this were, for instance: *'A learner is like an observant and insightful child*' (participant 34), '*an explorer*' (participant 40) and '*a backpacker on an adventure, still searching for his/her destination*' (participant 45). These metaphors also link to the principles of inquiry and problem-based learning (e.g. Evensen et al., 2000; Hmelo-Silver, 2004), which represent more modern learning approaches. Likewise, a few visualisations reflected the idea of student-centeredness, as there were references to functional and task-based language learning (e.g. Nunan, 2004). Some metaphors also reflected the notion of learning as a continuous process, for example: '*learning is a process that never ends*' (participant 33), which is in contrast to the lamp-lighting metaphors presented in the section on the institutional learning framework above.

The socio-constructivist approach to, and the interactional nature of, learning were recurrent themes in both the metaphors and the visualisations. Several visualisations portrayed the learning environment as collaborative. The teacher was depicted as a facilitator of learning who was physically close to the students, guiding the group activities (see Figure 3). What is interesting in this drawing is that the teacher is depicted smiling and in a linear line with the groups of students (cf. Figure 1), albeit raised in size and almost centred in the overall composition of the picture. Also, potentially relevant for image interpretation is the abundant use of colour (see Kress & Van Leeuwen, 2002) in the depiction of individual students, which can be interpreted as an indication of the heterogeneity of the groups of students.

The collaborative nature of learning was also reflected in the metaphors describing the ideal learning situation, which emphasised cooperation and interaction as well as dialogue, for instance: '*An ideal learning situation is like teamwork because it guides everyone to*

Figure 3. A participant's visualisation of collaborative learning.

be active' (participant 34), '*a puzzle with all the pieces falling into place*' (participant 47) and '*fruitful interaction*' (participant 52). Some metaphors referred to the equal roles of the teacher and students and to dialogic teaching, for example '*An ideal learning situation is like a collaboration where both learner and teacher get something for themselves*' (participant 29) and '*an equal discussion*' (participant 38). Similarly, the descriptions of an ideal learning situation in the visualisations repeatedly highlighted a safe learning environment and a positive atmosphere.

The authenticity of the learning situation was also conveyed in the metaphors. Authenticity has long been discussed in the context of language education and it is considered one of the characteristics of modern language learning. According to Nyman (2015), authentic learning emphasises the relevance of the activity and the connection of what is learned to the students' lives and previous experiences. An example of authenticity was, for instance, the following metaphor: '*An ideal learning situation is like an authentic interaction situation*' (participant 33). These types of metaphors imply that, for those participants, learning is not detached from the students' everyday lives and experiences, but strongly connected to them. A similar notion of authentic learning was reflected in visualisations where learning was described as taking place outside the classroom or school (e.g. on excursions, in nature or in cafés; see Figure 4).

The visualisation is presumably drawn with a computer programme, and the rich use of colours and the rather expected symbols referring to nature (big sun, green tree) reinforce the interpretation of the specificity of the learning environment (cf. a classroom with desks). In the setting of this picture, both the teacher and students are depicted as a smiling and linearly united group, which can be interpreted as reflecting a positive learning atmosphere and the equal positioning of teacher and students in the ongoing situation. However, the teacher is distinguished from the students by the hand pointing to the sky, the speech bubble and the slightly larger size in relation to the students. We interpreted the placement of the ideal learning situation outside the school and the classroom as a strong message against the institutional nature of learning. In general, the presence of authenticity in the participants' outputs can be seen as a positive aspect, since

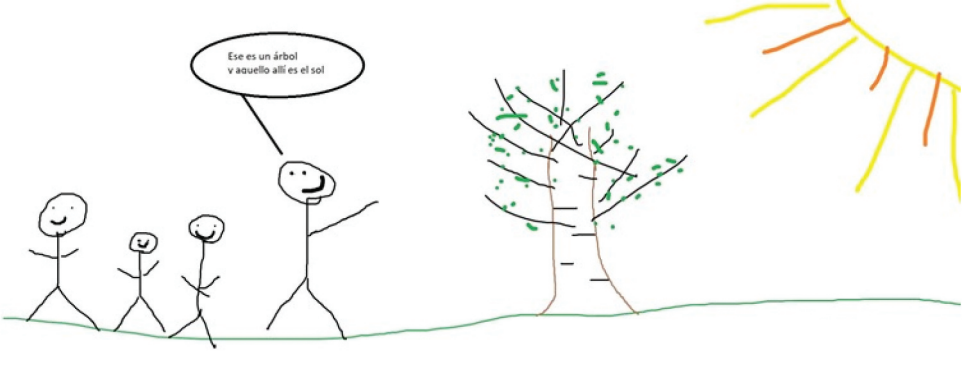

Figure 4. A participant's visualisation of extramural learning.

it is one of the features of communicative language teaching (Richards, 2006) which underpins today's language teaching.

One recurring theme in this framework, particularly in the metaphors, was the uniqueness of each learner. Examples of such metaphors that emphasised the individuality of the learner included the learner being '*like a snowflake, each one unique*' (participant 64), '*a unique green plant*' (participant 54) and '*a bear, an ant or anything in between, each one unique*' (participant 15). We interpreted the ethos of individuality as implicitly referring to differentiation, which refers to an approach to teaching in which teachers both pro- and re-actively modify their teaching to address the diverse needs of individual students and small groups of students (e.g. Roiha & Polso, 2021; Tomlinson, 2014). This is a positive finding, since the individualisation of students is strongly present in the Finnish school system and pedagogy. For example, according to the Finnish National Board of Education (2014), differentiation is 'the pedagogical point of departure for all instruction' (section 4.3) and every teacher should therefore differentiate their teaching. However, Finnish pre- and in-service teachers have been found to hold somewhat restricted views on differentiation (e.g. Roiha, 2014, 2023; Roiha & Heinonen, 2024). This is echoed in corresponding studies from other contexts (e.g. Dack, 2019; Nepal et al., 2021).

Discussion and conclusion

This study explored pre-service language teachers' perceptions of learning and teaching through metaphors and visualisations at the outset of their pedagogical studies. Interestingly, we identified two quite different main frameworks from the data: 1) an institutional learning framework, and 2) interactive and individual-oriented framework. On the one hand, our findings on the institutional framework are quite in line with previous studies, where teacher-centredness and textbooks have been emphasised in learning (e.g. Alanen et al., 2013; Beltman et al., 2015). On the other hand, however, the findings on the interactive and individual-oriented framework show a slight shift towards a more modern approach to teaching. The views associated with this framework are in line with contemporary conceptions of learning. The presence of these two opposing frames in the data is in accordance with many previous studies which revealed a somewhat polyphonic approach to teaching (e.g. Eren & Tekinarslan, 2013; Lin et al., 2012; Mäntylä & Kalaja, 2019; Shin & Alpern, 2024; Sinclair et al., 2013; Thomson, 2016). This raises the question of whether there is a kind of balancing act between traditional and more modern teaching and learning methods in today's education.

In a sense, it is quite understandable that many participants' outputs strongly emphasised a rather traditional teaching style, as most of them have no teaching experience or pedagogical studies of their own. Presumably, their own school experiences and preferences, the cultural and social context, as well as the general beliefs and perceptions prevailing in society, have all influenced their perceptions of teaching and learning. In the light of this, it is positive that more modern trends in teaching, such as student-centredness and collaborative learning, were also clearly visible in many participants' outputs (see also Shin & Alpern, 2024). It is expected that other participants will also be able to broaden and update their views on teaching and learning during their studies as perceptions are assumed to be dynamic and susceptible to change (Barcelos & Kalaja, 2011). On the whole, the findings of the study

suggest that some pre-service teachers already have many progressive elements in their teaching philosophies on which to build and deepen their didactic thinking. On the other hand, the study shows that a great deal of attention must be paid to covering the basic tenets of modern pedagogy with future language teachers, such as student-centerdness and functional language learning. In addition, there seem to be certain established patterns of thinking in the participants' minds, for example related to culture or native-speakerism, which are important to critically review and de-construct.

The present study used somewhat innovative data collection methods, which are worthy of reflection. Firstly, although metaphors are thought to reflect deep-rooted beliefs and perceptions that guide the way people think and act (e.g (Bateson, 1994; Clandinin & Connelly, 2000; Lakoff & Johnson, 1980), their use also has limitations from an epistemological perspective. That is, it may be challenging to capture and convey holistic perceptions with metaphors. Instead, they can rather be thought of as representing certain aspects of a broad phenomenon that the participant wishes to emphasise and highlight (Inbar, 1996). Metaphors, as linguistic formulas and schemas, also tend to lend themselves easily to formulaic and conventional linguistic choices, which may echo prevailing and recurrent expressions in the community. Metaphors may also be to some extent culture- and context-specific (de Guerrero & Villamil, 2002).

Although the visualisation examples illustrating the results in this article are explicitly drawn (as shown in Figures 1 to 4), which can be seen as an intentional way of producing visualisations, a large part of the visualisations in our data were rather complex image collages, with images retrieved from the internet. Therefore, a limitation of the present study is the supply of images, where illustrations are searched for online and taken from internet image banks, rather than having the participants draw their own visualisations. This way the participants may be inclined to opt for images that are readily available and which are mostly provided by online searches using teaching-related keywords. Moreover, the images in the image banks may sometimes reproduce expected stereotypes on teaching and learning; the lighting of a light bulb as a metaphor of learning may be an example of this. One solution to this problem would be for participants to simply draw their visualisations instead of relying on online sources. However, it is also worth noting that the participants chose to use these images for their visualisation, which implies that they have subscribed to them and wanted to highlight them as part of their ideal language learning. One reason that about half of the participants completed their visualisations in writing may be that it can be challenging to capture the whole story with individual images and the text is used to clarify its meaning (see also Roiha & Heinonen, 2024). In the future, it might be useful to include a textual description of the visualisation as a mandatory element of the assignment.

Finally, we are also aware that analysing such rich and nuanced qualitative data is always challenging and that their classification and thematisation is to some extent open to interpretation (see also de Guerrero & Villamil, 2002). Even the individual metaphors and visualisations were themselves complex and multivoiced, and in some cases, we have had to make certain simplifications in order to report the results. As the data were already relatively large in the first phase of the study, we were not able to analyse all the visualisations in as much detail as the nuanced images would have allowed.

Our study opens up several avenues for further research. In the future, it would be interesting to examine how pre-service teachers' perceptions of teaching and learning actually manifest in their teaching praxis and whether there are any discrepancies between the two. In response to another research avenue, we have collected longitudinal follow-up data in which the participants return to their initial metaphors and visualisations and reflect on them at the end of their studies. This will provide useful information on the development of how their perceptions of teaching and learning have possibly changed and evolved during their studies. In addition, the aim is to follow some participants over a longer period of time after they enter working life and see how their perceptions may change or evolve with teaching experience. Despite its limitations, the present research aimed to contribute to the body of research on pre-service teachers' perceptions relying on metaphors and visualisations. On a practical level, the study has given us teacher educators valuable insights into the perceptions with which students enter their pedagogical studies.

Note

1. To be precise, the comparisons that the participants produced are similes (direct comparisons) as they contain the word '*like*'. We however use the term metaphors consistently, since the literal and figurative meanings of similes and metaphors can be regarded as the same (see e.g. Fogelin, 1988). In addition, many prior studies relying on Lakoff and Johnson's (1980) metaphor theory have also used similes and referred to them as metaphors (e.g. Lin et al., 2012; Salo, 2010).

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Anssi Roiha http://orcid.org/0000-0003-1640-1514
Pilvi Heinonen http://orcid.org/0000-0002-5853-1643

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