Learning to learn in preschool:
Principles for a framework concerning preschool teacher empowerment
Apprendere ad apprendere nella scuola dell'infanzia: Principi per un quadro teorico sull'empowerment dei docenti

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DOUBLE BLIND PEER REVIEW

ABSTRACT

In Europe, the preschool sector is receiving increased attention. European Council's Recommendations (2018; 2019) emphasize the need for ECEC to be at the forefront in developing teaching practices conducive to key competences. Among these, Learning to Learn (L2L), crucial at this developmental stage. Italian preschool is of good quality and inclusive. However, the 2019-2020 self-evaluation experimentation evidenced some weaker areas. Only 28.7% of leaders declare that children in their preschool have a positive self-esteem. In addition, teachers seem unaware of L2L in early childhood and hold misconceptions on its acquisition. This contribution advances an evidence-based trajectory for preschool teachers' in-service training on L2L, framed within a sociocultural perspective, for their empowerment. The core of this proposal is to uncover teachers' L2L conceptions that are generally unconscious. Reflecting on their own L2L, teachers are empowered and able to prepare a preschool environment where children may acquire self- and co-regulated learning competences.

La scuola dell'infanzia in Europa sta ricevendo crescente attenzione. Le Raccomandazioni del Consiglio (2018; 2019) sottolineano la necessità che questo settore sia l'avanguardia per pratiche educative centrate sulle competenze chiave. Fra queste, l'Apprendere ad Apprendere (AaA), cruciale per lo sviluppo dei bambini. La scuola dell'infanzia italiana è di qualità e inclusiva. L'esercizio di auto-valutazione 2019-2020 ha tuttavia evidenziato alcune criticità. Solo il 28,7% dei dirigenti/coordinatori afferma che i bambini nella loro scuola hanno un'autostima positiva. I docenti, inoltre, sembrano inconsapevoli dell'importanza dell'AaA nell'infanzia e hanno concezioni inesatte sulla sua acquisizione. Questo contributo propone una traiettoria di formazione dei docenti di infanzia, in una prospettiva socioculturale basata su evidenze, volta all'*empowerment*. Il cuore della proposta è slatentizzare le concezioni dei docenti sull'AaA, generalmente inconsce. Attraverso la riflessione sulle proprie competenze apprenditive, i docenti predispongono un ambiente di apprendimento dei bambini favorevole all'acquisizione di competenze di auto- e co-regolazione.

KEYWORDS
Learning to learn, Self-regulated learning, Preschool, Teacher training, Framework
Apprendere ad Apprendere, Apprendimento auto-regolato, Scuola dell'infanzia, Formazione docenti, Quadro teorico

Learning / Imparare

1. Introduction

European preschool has received increased attention from policy makers and researchers, since the publication of the European Commission's Quality Framework for Early Childhood Education and Care (ECEC) in 2014 with its complement on indicators for Monitoring the Quality of ECEC systems (2018) and the Recommendation on high quality ECEC services (European Council, 2019). Such attention surfaces from several key publications within international organizations (OECD, 2017a; 2017b; 2019; 2020; Schleicher, 2019; UNESCO, 2013/2014), and in Europe (Bove et al., 2018; European Commission, 2021; Melhuish et al., 2015; Slot et al., 2015).

In parallel, the Council Recommendation on Key Competencies for lifelong learning (2018) emphasizes the need for ECEC to be at the forefront in developing teaching and learning practices conducive to key competences. This is especially needed on Learning to learn (L2L, European Council 2006), now termed Personal Social and Learning to Learn or LifeComp key competence (PSL2L, European Council 2018; Sala et al., 2020)[1]. Particular attention is devoted to L2L as 21st Century competence that teachers should develop to help children thrive (Alberici, 2008; Bertram et al., 2016; OECD, 2019; Claxton, 2002). Stakeholders consider L2L of utmost importance for individuals and society, yet research often overlooked it (Stringher, 2014). According to its recent European conceptualization, PSL2L is "the ability to reflect upon oneself, effectively manage time and information, work with others in a constructive way, remain resilient and manage one's own learning and career" (Sala et al., 2020: 11). In this context, however, a definition of developmental L2L is more useful:

> Holistic capacity to learn which sets the basis for lifelong learning and mediates future learning attainment and achievement. This capacity is gradually built during the first years of life by the interaction of children's genetic endowment (determining cerebral maturation level) and their immediate social environment (particularly, family and ECEC services). This learning potential is composed of abilities, knowledge and behaviours. Among them, cognitive and metacognitive, socio-affective-motivational mental assets (Stringher, 2016: 112).

The empowerment function of L2L for active citizenship and social well-being is what characterizes the European stance on this competence.

In this contribution, I address ECEC teacher training on L2L. A wealth of international research identifies high teachers' qualifications and professional development as central aspects qualifying ECEC services (Bove et al., 2018; Egert et al., 2018; Jensen & Ra-

smussen, 2019; Melhuish et al., 2015; Peleman et al., 2018; Schleicher, 2019; Sylva et al., 2004). Higher levels of teachers' formal education are associated with higher overall classroom quality (Slot et al., 2015), and with more supportive teacher-child interactions, yielding better children's learning outcomes. Although many countries are raising the levels of education required of preschool teachers to improve quality, impact, and economic benefits of ECEC (European Commission/EACEA/Eurydice, 2019; OECD, 2019), the proportion of ECEC workforce actually holding a tertiary qualification is rather low, especially in Italy (20%, according to Freddano & Stringher, 2021) and in non-European countries (Pascal et al., 2013). Furthermore, pre-service qualifications alone may not guarantee better child learning and developmental outcomes (Bove et al., 2018; Melhuish at al., 2015; Slot et al., 2015). Participation in in-service training (or Continuous Professional Development, CPD) emerges as a predictor of the quality of staff-child interactions and correlates with child development and learning (Jensen and Rasmussen, 2019; Pineda-Herrrero et al., 2010; OECD, 2018). CPD is "in-service training undertaken throughout a teacher's career that allows them to broaden, develop and update their knowledge, skills and attitudes" (European Commission/EACEA/Eurydice, 2021: 158). CPD starts with initial training (Jensen and Rasmussen, 2019), contributes to process quality (Zaslow et al., 2010) and to successful curriculum implementation (Siraj-Blatchford, 1999). However, not all CPD experiences are equally effective at enhancing teacher pedagogy and improving child outcomes (Egert et al., 2018; Schachter et al., 2019). As Schleicher puts it (2018), in changing times teachers should educate learners "for their future, not our past", and for this reason the connection of CPD with L2L seems paramount. L2L equips individuals and groups with abilities and competences that are central in VUCA environments, characterised by Volatility, Uncertainty, Complexity and Ambiguity (Stringher, 2021).

CPD in ECEC is important also considering that L2L seems difficult to support across education systems. It appears that education around the world is particularly able at thwarting key components of this notion, such as creativity and curiosity, as these components are developed in the early years and drop from age 6 (Chernyshenko et al., 2018). I thus concentrate on what preschool teachers do to support L2L in young children, and how this already positive practice may be enhanced through CPD. A knowledge gap on preschool teacher training for this specific competence seems evident (Zaslow et al., 2010; see Perels, et al., 2009 for an exception). Zaslow and colleagues (2010) advocate for CPD that integrates content across topical areas, such as literacy, maths and social skills. Use of the recently issued European framework for PSL2L (Sala et al., 2020) for teacher training is not reported yet. In addition, training schemes are available on L2L or Self-Regulated Learning (SRL) primarily for adult education or other school levels internationally (Kloosterman & Taylor, 2012; Pellerey et al., 2013; Willis, 2014). Furthermore, a research group identified misconceptions in preschool teachers concerning children's acquisition of L2L (Brito et al., 2021).

Thus, a theoretical proposal for teacher training on L2L is put forward. Its purpose is not to orchestrate a

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1   I will interchangeably use L2L for Learning to Learn and PSL2L or LifeComp when I refer to the analogous concept as described in the European PSL2L competence framework. This is an important theoretical difference with the European conception, since I consider that the competence is Learning to Learn, including also personal and social elements (according to Caena & Stringher, 2020).

comprehensive competence framework for teachers on L2L (see Caena & Redecker, 2019 for a framework example), but rather to enucleate basic principles and trajectories for teacher empowerment on L2L. The goal is to contribute to the micro-level of the Italian ECEC classrooms, to support teachers' practice and continuous professional learning in their daily routines (Bronfenbrenner & Morris, 2007; Caena & Redecker, 2019), sustaining children's innate desire to learn. Researchers and practitioners from other countries interested in placing L2L at the centre of ECEC teachers' in-service training could find this contribution useful.

My argumentation stems from recent data on preschool quality evaluation in Italy and from an international L2L research project. These studies and global literature point to the need of three main characteristics of teacher training to be effectively producing change at the practitioner level. First, alignment with key policy documents, curricular guidelines and research on quality in ECEC; second, orientation to the competence profiles of in-coming trainees; third, capacity to be truly engaging, practically useful, ongoing and transformative for practitioners (Bove et al., 2018; EuroFound, 2015; Taylor, 2008). These principles combine with knowledge, skills and attitudes for teachers to own L2L in early childhood. "Only strategists can teach strategies" to children through modelling and scaffolding (Páramo, 2017: 38), hence the need for strategy training for ECEC teachers. Montessori's and Reggio Children pedagogies inspired this proposal. The argument unfolds in three parts: Learning to learn in ECEC, also considering teachers' voices; Preschool quality and teacher training in Italy; Principles and thematic areas for preschool teacher empowerment on L2L. Considerations for the application of these principles to teacher training in Italy and elsewhere are discussed. Next steps include applications of this framework to propose competence levels and assessment tools for trainees.

2. Learning to learn in ECEC

The European Council Recommendation (2018) on key competencies for lifelong learning identifies PSL2L as a competence that European citizens should acquire for personal fulfilment, active citizenship and social inclusion. In 2019, the European Council states that everyone should be equipped with these competencies to develop their potential starting early in life, and governments are encouraged to provide quality ECEC and ensure excellent teaching (European Council, 2019). The European framework on LifeComp culminates in a series of statements concerning the implementation of this framework (Sala et al., 2020). Among these, the need to design practical solutions and the usefulness of the framework for initial and in-service training. However, no specific link between this competence and ECEC is made. This seems a notable absence, because children acquire key components of L2L at this stage (Demetriou, 2014; Páramo, 2017; Stringher, 2016). Psychological literature addresses features and trajectories for the development of specific L2L components, such as self-regulated learning and executive functions: impulse control, persistence, attentiveness, effort, autonomy, curiosity
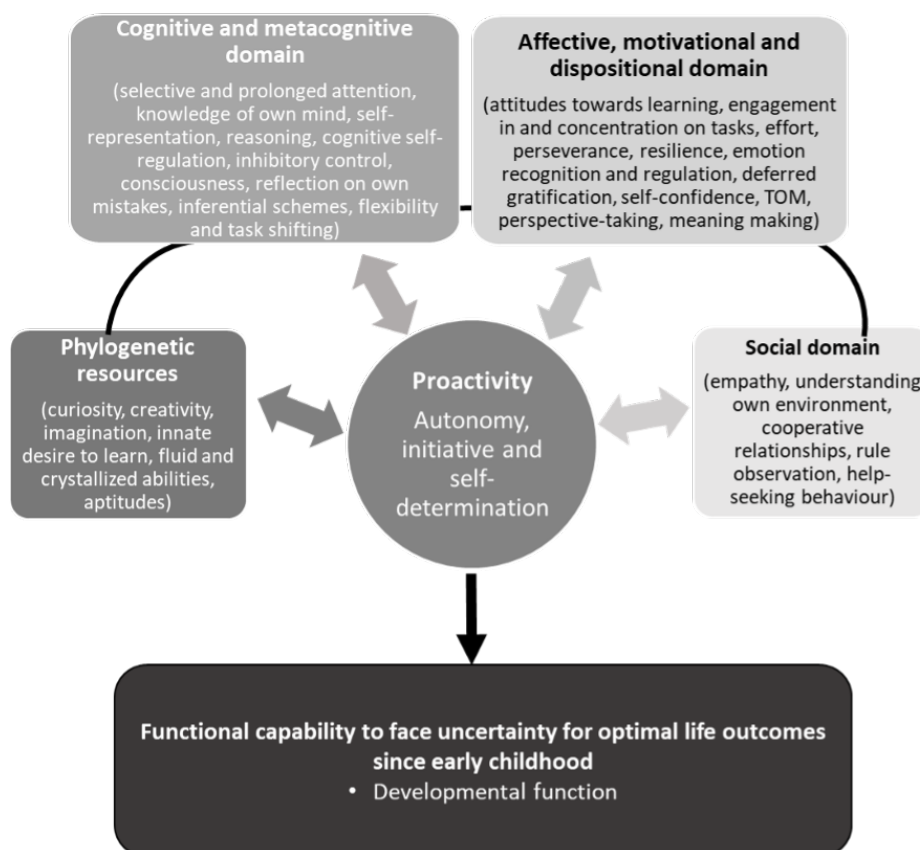

Cognitive and metacognitive domain
(selective and prolonged attention, knowledge of own mind, self-representation, reasoning, cognitive self-regulation, inhibitory control, consciousness, reflection on own mistakes, inferential schemes, flexibility and task shifting)

Affective, motivational and dispositional domain
(attitudes towards learning, engagement in and concentration on tasks, effort, perseverance, resilience, emotion recognition and regulation, deferred gratification, self-confidence, TOM, perspective-taking, meaning making)

Phylogenetic resources
(curiosity, creativity, imagination, innate desire to learn, fluid and crystallized abilities, aptitudes)

Proactivity
Autonomy, initiative and self-determination

Social domain
(empathy, understanding own environment, cooperative relationships, rule observation, help-seeking behaviour)

Functional capability to face uncertainty for optimal life outcomes since early childhood
• Developmental function

**Figure 1. A model of L2L dimensions and components in early childhood
(Adapted from Stringher, 2016; Caena & Stringher, 2020; Stringher, 2021)**

(Blair, 2002; Carlson, 2009; Shonkoff & Phillips, 2000; Stipek, 2012; Zelazo et al., 2003). A representation of such components is provided in Figure 1.

Pedagogically, all L2L domains and dimensions are active in early childhood, driven by learner agency: innate desire to learn and meaning making, representational capacity, fluid abilities, metacognition and self-regulation in learning, basic psychological needs satisfaction and affective self-regulation, beliefs and attitudes towards learning, creativity, curiosity and learning motivation, learning relationships and use of environmental resources (Demetriou, 2014; Stringher, 2016).

It is thus surprising that teachers' resources to foster L2L in ECEC are scant. There might be several reasons for this. According to Sylvest & Kwaw (2017), L2L is included in European competence frameworks in Estonia, Finland, Belgium Flanders, France, Ireland and Portugal. However, none except Romania mentions this competence from ECEC. A comparative review of national curricula in six countries (Brazil, Ecuador, Italy, Mexico, Spain and Uruguay) revealed that L2L is mentioned in all of them except in Mexico (Patera et al., 2020). The Italian and Spanish curricula only indirectly mention L2L components from preschool and no country has national resources in place for L2L teacher training (Castro Zubizarreta, 2021; Patera et al., 2020). Another reason is the erroneous belief that teachers may promote and children may acquire L2L only at a later stage, thus underestimating the potential of preschool settings in fostering early L2L (Castro Zubizarreta, 2021). These two reasons might have a mutual influence on the disregard for L2L in ECEC. Furthermore, some teachers believe that preschool is too early a period to introduce L2L for children's presumed inability to self-regulate (Brito et al., 2021), while a wealth of research supports the notion that children's self-regulation capacity starts developing around three years of age and thus preschool is a sensitive period for its acquisition (Blair, 2002; Carlson, 2009; Rao et al., 2014; Shonkoff & Phillips, 2000; Stipek, 2012; Stringher, 2016; Zelazo, 2003).

Notwithstanding, a few qualitative studies have addressed preschool teachers' representations, activities and orientations that impact the acquisition of L2L in early childhood in Italy, Mexico, Spain, Uruguay (Brito et al., 2021; Castro Zubizarreta, 2021; Huerta et al., 2020). These studies converge in pointing to the favourable organization of preschools for supporting children's learning potential. In countries where the curriculum is organized around experience fields[2], such as Spain and Italy, researchers encountered an array of teachers' activities that have the potential to support children's acquisition of several L2L dimensions (Castro Zubizarreta, 2021; Huerta et al., 2020). However, such practices are not always consciously directed to these ends and, when preschool teachers' voices are heard, generally these practitioners are not able to provide a wide L2L definition (Brito et al, 2021; Stringher & Scrocca, 2021). When prompted, pre-

school teachers' definitions include a limited view of L2L, generally connected to learning more, to face new situations and keep learning, nor these practitioners are able to articulate their own training needs on L2L. In addition, contributions supporting preschool teachers' training on this competence are scarce (for exceptions, see Páramo, 2017; Perels et al., 2009).

3. Preschool quality and teacher training in Italy

Pre-primary education is of good quality and inclusive in Italy (Freddano & Stringher, 2021; Stringher & Cascella, 2020). World-class pedagogies, such as those of Montessori and Malaguzzi's Reggio Approach, have spread worldwide. Notwithstanding, the 2019-2020 national preschool self-evaluation evidenced some weaker aspects. During this experimentation, Italian teachers and leaders reported their children's perceived outcomes. Relevant for L2L are teachers' opinions included in Table 1.

Children's behaviour	% of reporting teachers
Know how to ask for help when needed	72%
Are curious and willing to learn	67%
Developed a sufficient level of self-confidence	45%
Are progressively aware of their resources and limitations	30%

Tabella 1. Percent of Italian preschool teachers declaring that all or almost all their children show a certain behaviour in 2019 (Freddano & Stringher, 2021)

Only two thirds of Italian preschool teachers declare that their children are curious and willing to learn and less than 50% maintain that children are self-confident and aware of their resources. Preschool leaders show less optimism: slightly more than 48% declare that children in their preschools show very positive learning dispositions and less than 29% affirm that children in their preschool have a very positive self-esteem. Overall, these data signal the need for increased awareness of preschool staff on the relevance of these aspects for their children's developmental L2L.

4. Normative arrangements on CPD for preschool teachers in Italy

According to Target 4c of the United Nations Sustainable Development Goals (UN SDGs, 2015), by 2030 nations should *substantially increase the supply of qualified teachers*. In 2015, the Italian Good School Reform introduced permanent, structural and compulsory CPD (MIUR, 2015). Following this law, the National Plan for Teacher Training 2016-2019 (MIUR, 2016) reorganised the purposes of in-service training, which should be considered *a decisive factor for the improvement and innovation of the Italian education system*, yet with no details on L2L.

National 2012 curricular guidelines state that the Italian school system adopts the European framework of key competences for lifelong learning as a reference to aim for, and this is also echoed in the 2018 New Scena-

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2 Experience fields are organizing concepts used in curricula for preschool education. They group didactic activities around key experiences that children can live in preschools. In Italy, they are self and others; body and movement; images, sounds and colours; discourses and words; knowledge of the world (MIUR, 2012).

rios (MIUR, 2018). This latter document proposes an interpretation of the 2012 guidelines, through the lens of citizenship competences, to be relaunched and strengthened. The definitions of key competences are those from the 2006 European Recommendation, however L2L is not examined in depth (Da Re, 2017). In the 2020 pedagogical guidelines for the 0-6 integrated system, in-service training is the main instrument to cultivate educational professionalism, but again no reference to L2L is explicit. More attention, instead, should be paid to teacher training on key competences, because CPD could improve their concrete implementation (Castro et al., 2020; Huerta et al., 2020).

5. Principles and thematic areas for preschool teacher empowerment on L2L

The choice of a CPD model for preschool teachers on L2L is indebted to several theoretical stances, which are intertwined in my socio-cultural approach. The first is heutagogy, which, for its characteristics, seems particularly in line with preschool teachers' CPD on L2L. «The capability to manage one's own learning is key to a person's long-term potential professional advancement» (Stoten, 2020: 164) and heutagogy seems a promising approach to use when the goal is to promote adult learning within a professional context. Key here is the learner-centered approach, with individual learning happening within a real-life, work-related situation. As Stoten points out

> The defining characteristics of heutagogy are the empowerment of learners to negotiate their own learning journey through a bespoke curriculum that meets their individual goals and is assessed by those criteria established by the learner. Heutagogy therefore represents an attempt to personalize a curriculum that is focussed on the development of professional capability (Stoten, 2020, p. 165).

Given this principle, the following proposal for in-service preschool teacher training on L2L will only outline the mail goals but will strive to provide teachers with concrete opportunities to imagine a preschool environment that is conducive for their own learning and for children's L2L acquisition.

For CPD to impact child outcomes, Egert and colleagues (2018) describe their 4-step model of change: 1) teacher training yields 2) teacher outcomes (knowledge, awareness and orientations); 3) teacher classroom practices, such as better process quality (warmer teacher-child interactions and supportive instruction); 4) children's outcomes.

Following Egert et al. (2018), in this section I put forward a CPD proposal, framed within a sociocultural approach (Claxton, 2013; Dweck, 2015; Lave & Wenger, 1991; Rogoff, 2003; Vygotskij, 1934/1990). According to Rogoff (2003: 3) "people develop as participants in cultural communities", in a continuum from peripheral novice activities to more central expert practices (Lave & Wenger, 1991). The aim is first to uncover teachers' L2L conceptions that are generally taken for granted or are even unconscious to teachers themselves. Second, the idea is to offer teachers a way to progressively move their L2L practices from peripheral to central. Central practices are those in line with L2L theory (Brito et al., 2021). Potential trainees are in-service preschool teachers, rather than novices or future teachers. This is because of four concurrent factors: the importance of children's early years for the acquisition of key skills; the availability of Italian preschool teachers, aware of their need for CPD to improve their professionalism; the need to build on the momentum generated by the Italian preschool self-evaluation experimentation; the impact that in-service training can have on process quality of teacher-child interactions. Italian preschool teachers are positively participating in preschool self-evaluation, since it attributes value to their professional efforts and reflection (Freddano & Stringher, 2021). The link between preschools self-evaluation and L2L seems important, both having a core element in reflection. *Teachers could thus consider this proposal as in-depth pedagogical aid to sustain their awareness of their key role in supporting children's innate desire to learn and keep learning with curiosity.*

A competence framework for CPD generally includes four core elements: content (what to teach); target audience (to whom); methodologies (how to teach it and how to deliver training); outcomes (how to assess knowledge and competencies acquired by trainees). Although professional development is not a linear process, in Figure 2, I map my proposal of preschool teacher training on L2L onto Egert's and colleagues' model of change (2018).
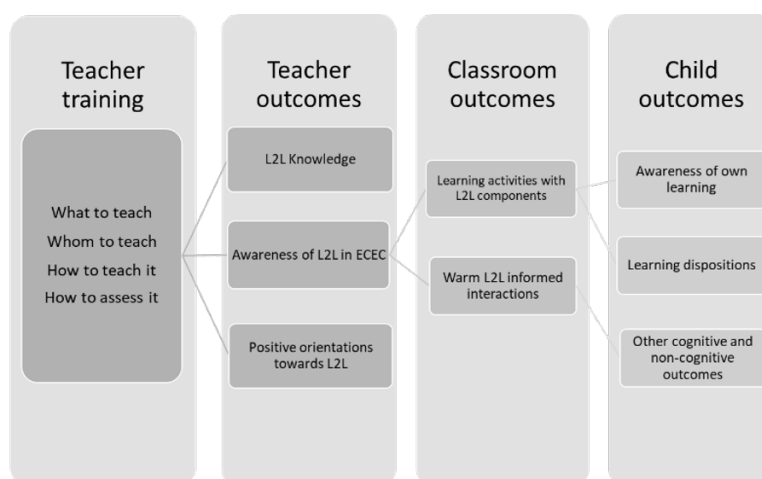

Figura 1. Model of L2L change from ECEC teacher training to child outcomes (Egert et al., 2018; my elaboration)

This proposal considers "what to teach" in a non-prescriptive way and not just as a list of do's and don'ts. The idea is to offer expert knowledge on L2L, based upon research, to engage ECEC teachers in a professional L2L conversation to raise their awareness on how children may acquire key components of this competence, according to theory. In this way, I connect the "what" and the "how" of the proposal, with training outcomes for ECEC teachers as a conceptual link between the two. The aim is to establish a wide L2L notion (Hounsell, 1979). Table 2 synthesizes the CPD proposal.

Training phase	Training outcomes	Methodology
Ice-breaker	• Teachers' familiarization with L2L concepts	• Teachers' reciprocal presentations and motivations to participate in course • Teachers' self-reflection on their own initial L2L definition • De-construction exercise on theoretical L2L definitions
L2L theory	• Teachers' familiarization with theory-driven practices (activities and orientations) conducive to L2L in preschool settings[3]	• Teachers' dialogues with expert on their own current practices to enucleate their own L2L activities and orientations • Teachers' comments on exemplary practices and do's (or don'ts) proposed by expert • Teachers' familiarity with child outcome observation tools on L2L and with L2L self-assessment
Practices	• Teachers L2L activities in their own preschools within an action-research project	• Teachers' implementation of practices through an array of activities sustained by their own L2L orientations and dialogue with children • L2L preschool curriculum with activities and teachers' orientations emerging from the action research project • Teachers' annotations, data collection and recording of the implemented activities
Reflection	• Tuning and re-tuning of teachers' L2L practices until they are central	• Expert and teachers' reflections on the observed and recorded practices
Assessment	• Children observation to understand whether they are developing L2L competencies	• Teachers' application of an instrument to aid children's observation of emerging L2L
Loop	• Teachers' reflections on L2L development and own pragmatic L2L theories	• Based on observation data and teachers' logs on the activities and orientations, discussion with expert on outcomes for adjustments

Tabella 2. Teacher training scheme on L2L (Author's elaboration)

Ideally, the training would be composed of in-person meetings followed by an action research project, where teachers build a L2L preschool curriculum with the aid of the L2L expert. The L2L preschool curriculum should include principles of L2L acquisition that teachers should master, as well as activities conducive to its unfolding in preschool children. The in-person meetings would include small groups of teachers (up to 20 per session) and at least two teachers from the same preschool, so to promote a whole school approach to L2L (Goldberg et al., 2019). The action research would be implemented according to Kemmis and McTaggart (cited in Koshy, 2000) action research spiral, where preschool teachers would put the training into practice for change (see the "practice" phase in Table 2). Action research seems quite appropriate as a participatory process to engage preschool teachers in change. The expected change includes both their theoretical reflections on L2L and their classroom practices conducive to L2L in young children.

Key in this organization are the expert's orientations towards teachers: the latter should be seen as active co-constructors of their own training, in dialogue with the expert, and bringing their current practice to the fore. The expert, in turn, should play the role of scientific advisor to practitioners, on a peer-to-peer exchange basis. This feature seems key, so to engage trainees in meaningful and mutual exchanges. Let us examine training components in detail.

5.1 What to teach on L2L to preschool teachers?

Teaching in preschool should be considered a delicate operation as medical care, because the preschool years lay the foundations of citizens' balanced personalities. *Primum non nocere* (first, do no harm), should thus be the motto for preschool teachers and trainers too. Teaching L2L is almost an oxymoron, as L2L is a mindset that people acquire in social activities. L2L offers more than just prescriptions to preschool teachers: it offers an organizing concept to shape their local curriculum, teaching practices and orientations. For these reasons, the "what" of this training should be closely interwoven with the "how". In order to offer expert advice to teachers on L2L, pivotal contents would be a set of L2L definitions (the European PSL2L definition, a definition of adult L2L and a defi-

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3   Perels' and colleagues' model for the acquisition of SRL techniques could be used within this phase. See also Stringher, 2016 for a wider theoretical account of L2L in early childhood.

nition of developmental L2L in early childhood) to be de-constructed in components and re-constructed as teachers' own definitions (Stringher, 2016; Caena & Stringher, 2020; Sala et al., 2020;).

During an action learning session, teachers will reflect on contents related to L2L in early childhood, their own practices and children's development. As teachers interact with L2L definitions and components, theoretical knowledge on how L2L develops in early childhood and components of developmental L2L by dimension could be explored (see Figure 1 for details).

L2L dimensions contain cognitive and non-cognitive elements. According to Demetriou (2014), early hyper-cognition includes children's knowledge of own mind, self-representation, self-monitoring, and self-regulation skills. The affective-motivational dimension of L2L comprises emotional recognition and expression, emotional self-regulation, deferred gratification and aggressiveness control, self-confidence, learning motivation, resilience during difficulty, among others (see Stringher, 2016 for an extensive list of L2L components). The social dimension incorporates children's theory of mind (TOM) and understanding of others' thoughts, perspective-taking, asking for help if and when necessary. While teaching children cognitive contents, such as discrimination, seriation, analogies and differences in the qualities of objects of daily use, crucial for educators is their ability to sustain children's innate desire to learn, their curiosity and search for meaning, supporting their proactive agency. Teachers' orientations that favour L2L acquisition in children should also be discussed within the training group (Brito et al., 2021). Teachers' positive attitudes towards learning discovery with children is key, along with their orientation towards support for children's autonomy and self-confidence, when facing uncertainty and learning hurdles. Teachers' role in modelling perseverance in times of trouble, learning motivation and will to learn are essential (Hautamäki & Kupiainen, 2014), also in the early years, as is strategy use (Perels et al., 2009) and reflection on own learning. At this point, do's and don'ts extrapolated from L2L literature could also be discussed with trainees (Stringher, 2021).

5.2 How to teach L2L to preschool teachers?

I propose a meta-curricular maieutic approach: L2L should be embedded in learning activities and not taught as a separate subject matter (Weinstein & Meyer, 1996). This hands-on and minds-on action learning approach has the advantage of making trainees experiment with the L2L concept, learning strategies and guidelines related to L2L, rather than study theoretical content unrelated to their practical experience.

The fundamental idea is that when planning activities supportive of L2L in children, preschool teachers have an advantage compared to teachers in other school levels, that is the absence of rigid disciplinary boundaries: Italian national curricular guidelines organize preschool content in broad experience fields, thus activities for children are inherently interdisciplinary, starting from children's own curiosity and interests to explore their environment. The carefully prepared environment is a Montessorian feature of Italian teachers' pedagogical orientations. Thus, L2L is a transversal organizing concept (Stringher, 2014a) for preschool teachers' practices (Stringher, 2014b) that should be consciously available to teachers.

For L2L to flourish in children, the core ingredient is teachers' awareness and knowledge of how L2L operates concretely (Demetriou, 2014), something that seems lacking in Italian preschool teachers (Stringher & Scrocca, 2021). Brito and colleagues (2021) maintain that teachers' activities and orientations on L2L may range on a continuum from peripheral to central (Lave & Wenger, 1991) and suggest that preschool teachers seem unaware or hold misconceptions on the potential of early childhood for establishing the basics of L2L. Some preschool teachers, not only in Italy, believe that childhood is too early a period for engaging children with their reflections upon their own learning (Stringher & Scrocca, 2021; Brito et al., 2021). However, a wealth of psycho-pedagogical literature confutes this fallacy, especially considering children's emerging theory of mind (Blair, 2002; Demetriou, 2014; Janus et al., 2007; Rao et al., 2014; Saracho, 2014). Challenging teachers' conceptions on these grounds might be a delicate task, but it is worth discussing with them in a mutual exchange of experience between researcher and practitioners.

Along these lines, the core of this training proposal is to suggest characteristics of central L2L activities that teachers may propose to children, together with teachers' orientations that facilitate children's acquisition of L2L abilities. The methodology of an empowering CPD on L2L is thus to engage teachers in a description of their initial L2L conceptions and of their current pedagogical practices to start a dialogue between them and the L2L expert, so to gradually move practices and orientations towards a more central position on this continuum. Key in this training phase is the identification of activities and orientations that teachers commonly practice and are potentially useful to support L2L in children. A potentially useful activity is defined as one that, although not fully in line with theory, contains elements that sustain one or more L2L components (Brito et al., 2021). CPD of this sort is thus completely embedded in trainees' zone of proximal development (Vygotskij, 1934/1990). In turn, children, through their own agency in the carefully prepared environment and through collaborative activities and teachers' orientations conducive to exploration, may not only carry out a task, but also reflect on their own path for its completion or solution and learn how they reached a certain goal. Group reflections on children's own learning, guided by the classroom teacher, may be an example of central L2L activity.

5.3 How to assess L2L in teachers and children

The ultimate goal of L2L teacher training is enabling L2L incremental acquisition in children. Thus, assessment of children's L2L is deemed necessary to understand whether teacher training is successful. Stringher (2016) developed the Approaches to Learning Assessment Scale (ALAS), a 33-item tool conceived to aid teachers' observation of unfolding L2L in preschool

children. The contribution of this scale to teacher training is twofold: it serves the purpose of aiding teacher's observations of children's L2L, and it is useful during teacher training, to underscore the importance of certain elements that teachers can manage. After initial child observation, teachers may aid the acquisition of this competence in children, through careful planning of the learning environment and through noticing on which tasks or attitudes children need help.

The training cycle should involve teachers at key stages: at the inception of the school year, at midterm and at the end of the year, possibly through in-person meetings with the expert. Results should be evaluated prior and after the intervention, with a mix of qualitative accounts of teachers' experience and quantitative measures taken with the ALAS scale for children at key stages of teachers' training.

6. Conclusions and next steps

In this contribution the intent is to propose principles for a teacher training scheme on L2L, one of Europe's key competencies for lifelong learning that should be promoted in schools since the early years. This proposal is unique in that it addresses L2L from the standpoint of preschool teachers that are unaware of the potential strengths of the preschool environment and curricular organization in supporting this competence in early childhood. The result is an innovative proposal not only for its content breadth (L2L, not just SRL or study strategies), but also in terms of the processes entailed: active engagement of practitioners (Peleman et al., 2018) and critical reflection in communities of practice (Jensen & Iannone, 2018). In addition, this contribution is in line with world-famous Italian pedagogies (Montessori and Reggio Approach) and with one of the most comprehensive teacher training frameworks (Danielson, 2014). Both emphasize teachers' ability to engage children in their learning; teachers' understanding of and responsiveness to children's differences in their approaches to learning; teachers' ability to establish a learning culture in their classroom; teachers' preparation of a learning environment encouraging positive social interaction, active engagement in learning, self-motivation, and active inquiry (Danielson, 2014).

The resulting teacher training scheme is in line with Schachter's and colleagues' guidelines for selecting CPD (2019), facilitating teachers' recognition of L2L in their previous learning experiences and their reflections on own practice. This proposal has the following features.

1. A clear connection is established with previous experiences of both teachers and children with L2L, as any transformative activity should enable participants to relate new ideas to their own, in an andragogical and heutagogical perspective of teacher training (Smith et al., 1990; Stoten, 2020; Willis, 2014).
2. This hook with learners' previous experience could be triggered by initial self-evaluation of key L2L constituents, yet in my experience, this is not

central. Although self-evaluation could be one possible way to start L2L preschool teacher training, what matters is that learners question their own beliefs and much of what they take for granted, in order to start their L2L journey.

3. Points 1 and 2 aim at creating awareness in teachers on the delicate transfer of L2L competence to children, an operation not to be underestimated for its complexity. Only teachers aware of the need to support and model L2L may contribute to their children's L2L awareness.
4. This training re-organizes a way of "doing preschool", revolved around children's experience fields, that is probably already established in the minds and practices of Italian preschool teachers. Therefore, I exclude large effect sizes from an intervention thought to increase teachers' L2L awareness to guide their practice with children.
5. Consequently, a quali-quantitative longitudinal study, based upon observation techniques in the classroom environment, would be a suitable methodology to detect change in teachers' practices and in their children's L2L. Furthermore, impacts are expected that would need to be monitored in the long run, especially if a concrete L2L preschool curriculum, forged by participating teachers, emerges from the action research.

Overall, this L2L training scheme applies findings of other educational sciences, such as psychology, to the pedagogy of the preschool environment. Such application may benefit teachers in Italy and in other countries, particularly where curricula thematise L2L or introduce 21st Century skills. For the future, I aim to test these general guidelines, with the inclusion of a competence continuum and assessment tools for trainees, coupled with procedures for applying tools for L2L observation in children within a technological infrastructure.

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