

# The state of knowledge concerning the relationship to knowing in teacher training

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**ABSTRACT.** This state of knowledge research aims to map the scientific production on the relationship to knowing in teacher training in Brazil, as well as categorize the multiple approaches and perspectives of publications on this theme. Data has been collected from the following academic databases: CAPES (a Brazilian federal government agency that stands for Coordination for the Improvement of Higher Education Personnel), Scopus, SciELO and REPERES (Network of Research on the Relationship to Knowing). This study has originated from skimming titles and abstracts of articles, dissertations and theses whose data have been processed in the light of discursive textual analysis, which involves a cycle of operations that deconstruct a corpus so as to categorize the analysis units. At the end of this stage, the following categories have emerged: school learning, school experience, knowledges (in the plural form) and formative processes. The results disclose the relevance of teachers in the pursuit of a career path with inquisitive attitudes that valorize the Other through a humanistic, dialogic and knowledge-sharing perspective. There is an emergence of Professors/Researchers who reconstruct knowledge, and therefore providing meaning to different knowledges, regardless if these are curricular, disciplinary, professional or experiential. All in all, it has been concluded that the relationship to knowing in teacher training leads to accounting not only for existing difficulties in the process of “learning to learn”, but also for the teacher’s role as mediator between knowledges, the world, his Self and the Other.

**Keywords:** Learning; Teacher training; Relationship with knowledge

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## INTRODUCTION

This research was part of a project titled “Initial Teacher Training and the Relationship to Knowing: a study with former Scientific Initiation students” (2017–2018), call notice No. 02/2017 by Research Coordination (Copes), bound to the Pro-Rectorate of Post-Graduation and Research (POSGRAP) of the Federal University of Sergipe, supported by the Institutional Program for Voluntary Scientific Initiation Grants (PICVOL).

In this research, Scientific Initiation is understood as a public policy aimed at fostering undergraduate research in the field of education in Brazil. Scientific Initiation was chosen as an object of study from a strong will to untangle the complexity embedded in public policies for science in Brazil. For

that reason, it is important to establish a distinction between the approaches to Scientific Initiation derived from political sciences (which follow governmental action on regular legal pathways, that is to say, such policies are implemented by following a rational, logical sequence, going from conception to implementation) and those derived from the sociological roots that have adopted the perspective of multiple interests and actors in the Brazilian political configuration, and therefore prioritize the incremental dimension of the action and the complexity of the decision-making processes (Viseu, 2012).

Souza (2006) discusses public policies from a holistic perspective which encompasses several disciplines, theories and analytical models. For instance, public policies not only clearly belong to the realm of political science, but are also analyzed by several other areas of knowledge. Public policies (in general) and social policies (in particular) are multidisciplinary fields which focus on explaining the nature of public policies and their processes. For this reason, an overall theory of public policies requires the synthetization of theories that have been developed in the realm sociology, political science and economy.

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Moreover, because public policies reverberate through both economy and society, any public policy theory needs to explain the interrelationships between the State, politics, economy and society (Souza, 2006, p. 25).

Such aspects have made it possible to conceive Scientific Initiation as a public action policy which fosters undergraduate research in the field of education in Brazil. Scientific Initiation was created in 1951, along with the National Council for Scientific and Technological Development (CNPq), an organization of the Brazilian federal government under the Ministry of Science, Technology and Innovation (MCTI). The creation of CNPq took place at the same time as the first Scientific Initiation annual undergraduate research grants started being issued. Nevertheless, CNPq is not the only organism that promotes undergraduate research in Brazil, there are also public foundations that foster research. The state of Sergipe is home to FAPITEC/SE, the Sergipe Technology Innovation and Research Foundation, instituted by Brazilian Law No. 5771, December 12 2005. Its mission is to foster and conduct science, technology and innovation in the state of Sergipe in order to contribute to sustainable development.

According to the CNPq's bylaw, its mission is to promote science and technology development and act in the formulation of national science and technology policies (Brazil, 2010, p.1). For this reason, the CNPq has a direct relationship with the development and institutionalization of science and technology in Brazil. It is responsible for public calls for post-graduation academic grants, be them from CNPq's own resources or from other public or private institutions. Data obtained from CNPq reveal that, between 2013 and 2018, 611,984 Scientific Initiation and TI (Technology Initiation) grants have been awarded. They were distributed as follows: 466,554 (76.23%) to the Scientific Initiation Institutional Grants Program<sup>1</sup> (PIBIC); 31,702 (5.18%) to the Scientific Initiation Program of the Brazilian Public Schools Mathematics Olympics<sup>2</sup> (PIC-

OBMEP); 27,717 (4.52%) to the High School Scientific Initiation Grants Institutional Program<sup>3</sup> (PIBIC-EM); 75,919 (12.4%) to the Technology and Innovation Initiation Grants Institutional Program<sup>4</sup> (PIBITI); 7,480 (1.22%) to the Scientific Initiation Institutional Program<sup>5</sup> (PIBIC-Af); and 2,622 (0.42%) to the Junior Scientific Initiation Program<sup>6</sup> (ICJ). (CNPq Investments Panel, 2019).

Scientific Initiation grants can be awarded to undergraduate students from any field of study who take part in a research project together with a mentor professor. According to Marcuschi (1996), the number Scientific Initiation grants awarded unevenly oscillated in the 1970s and 1980s, whereas in the late 1980s and early 1990s, pointed by him as a Scientific Initiation appreciation period, such number showed significant growth.

By associating the nature of the teaching profession to this scenario, the teacher image can be construed as one of a reflexive professional, while the concept of "reflection in action" can be viewed as a fundamental strategy for the epistemology of practice. Such conceptions have exerted an impact both on didactic research and teacher training. This leads us to the following **starting question**: what are the targets and perspectives of the scientific production on teacher training and on the relationship with knowledge? Aware of the complexity of such theme, we present our two main goals: mapping the scientific production found in the Theses and Dissertations Catalogue of the Coordination for the Improvement of Higher Education Personnel (CAPES), the *Scopus* database, in the Scientific Electronic Library Online (SciELO), and in the Network of Research on the Relationship to Knowing (REPERES); and categorizing

<sup>1</sup> *Programa Institucional de Bolsas de Iniciação Científica* (PIBIC). This Program provides support to Scientific Initiation policies developed by teaching or research institutions through awarding Scientific Initiation grants to undergraduate students. The quota of Scientific Initiation grants is awarded to the institutions, which are responsible for the selection of projects by mentor researchers who are interested in taking part of the Program. Undergraduate students are awarded the grant after being appointed by their mentors. Available on: <http://memoria.cnpq.br/pibic>

<sup>2</sup> *Programa de Iniciação Científica da Olimpíada Brasileira de Matemática das Escolas Públicas* (OBMEP). A program whose objective is to foster the continuity of an academic life in mathematics to winners of the OBMEP. That is done by awarding them the Junior Scientific Initiation (ICJ) grant. This program is developed in partnership with the National Institute for Pure and Applied Mathematics (IMPA). The mathematics Olympics happen across the country and is usually held not only at universities and schools, but also online through OBMEP's forum, which makes for virtual debates on the content chosen for the Scientific Initiation. Available on: <http://memoria.cnpq.br/pic-obmep>

<sup>3</sup> *Programa Institucional de Bolsas de Iniciação Científica para o Ensino Médio* (PIBIC-EM). A program that seeks to strengthen the proliferation of basic technological and scientific knowledge; and to stimulate abilities, values and a positive attitude toward scientific and technological education. Available on: <http://memoria.cnpq.br/pibic-ensino-medio>

<sup>4</sup> *Programa Institucional de Bolsas de Iniciação em Desenvolvimento Tecnológico e Inovação* (PIBITI). A program whose objective is to stimulate freshmen university students to familiarize themselves with tasks, methodologies, knowledge and practices related to technological development and innovation processes. Available on: <http://memoria.cnpq.br/pibiti>

<sup>5</sup> *Programa Institucional de Iniciação Científica nas Ações Afirmativas* (PIBIC-Af). A program that is the result of a partnership between the CNPq and the Special Secretariat for Policies to Promote Racial Equality (SEPPIR). This program awards Scientific Initiation grants straight to public institutions that take part in the PIBIC and which have acted in fostering student entrance into university. Only students who have benefitted from such acts can be indicated to this program. Project selection is done by institutions. Available on: <http://memoria.cnpq.br/web/guest/piict>

<sup>6</sup> *Programa de Iniciação Científica Júnior* (ICJ). A program that aims to develop scientific education projects with high school students. That is done by providing grants to partner state Research Foundations (FAPs or State Secretariats) and to other institutions. Available on: <http://memoria.cnpq.br/ic-jr/faps>

the multiple targets and perspectives of publications on the theme in question.

We defend the notion that the teaching profession must ensure professional learning and development; articulate initial education, in-service induction and education with a lifelong learning perspective; pay special attention to the initial career years and to the insertion of young teachers into schools; value reflexive teachers and a research-based teacher training; and embrace collaborative teacher teamwork, monitoring, supervision and assessment etc. (Nóvoa, 2011, p. 15)

Furthermore, such notion is grounded on the concept that teachers must be social scientists whose formal education is focused on research. Therefore, they must be able to reconstruct the knowledge and wisdom that cross disciplinary boundaries. This notion also intersects with cultural and personal formation. That leads to the categories of analysis of this research: **teacher training** and **the relationship to knowing**.

## THEORETICAL AND METHODOLOGICAL PATHWAYS OF THIS RESEARCH

In order to comprehend the relationship between knowing and teacher training, this section presents the pathway taken to accomplish our mapping of the CAPES Theses and Dissertations Catalogue, in the *Scopus* database, of the Scientific Electronic Library Online (SciELO) and of the Network of Research on the Relationship to Knowing (REPERES). Such platforms have not only strengthened scientific practices and supported post-graduation programs, but have also played a fundamental role in expanding and consolidating *strictu sensu* post-graduation (master's and doctorate) in all the Brazilian states.

The present work is a qualitative state of knowledge research, which allows for identifying, registering and categorizing data, thus leading to reflection and synthesis upon the scientific production happening at a given area and space of time. It incorporates scientific journals, thesis, dissertations and books on a specific theme (Morosini, 2015, p. 102). This study began by skimming titles and abstracts of all the works published between 2006 and 2017 and selecting 58 out of them. In organizing the corpus, articles, dissertations and theses published in the aforementioned period have been mapped, which made for a significant categorization.

The corpus<sup>7</sup> was constructed in the light of discursive textual analysis, which has proven especially useful to studies whose analysis approaches

need to be grounded in content analysis and discourse analysis (Moraes, 2003, p. 2). To this author, a corpus essentially consists of textual productions. Its texts are viewed as linguistic productions that refer to a given phenomenon and originate at a given time. Still according to Moraes, a corpus is viewed as a product that expresses discourses on phenomena that can be read, described and interpreted into a plethora of senses. From this perspective, discursive textual analysis and linguistic analysis find common ground, as both cover words, senses, multiple meanings of linguistic signs, syntax and other aspects that may go unnoticed by a superficial reading.

This kind of analysis addresses a cycle of operations whose goal is the unitarization/deconstruction of the content of the corpus so as to categorize the units of analysis. In the third stage, a metatext is produced with what has been exposed about the phenomenon being studied. Such metatext reveals what has been understood from the combination of variables from previous stages (Moraes 2013), and encourages, in a self-organized process, the emergence of new knowledge units and explanations.

The mapping of the CAPES Catalogue's theses and dissertations has contemplated 29 publications between 2013 and 2017 (Table 1).

**Table 1.** CAPES Catalogue's theses and dissertations (2013-2017)

Year	Kind of Research		Total
	Thesis	Dissertation	
2013	02	--	02
2014	12	01	13
2015	06	02	08
2016	04	--	04
2017	01	01	02
Subtotal	25	04	29

Survey in the *Scopus*, *SciELO* and *REPERES* databases granted access to information regarding 29 articles on teacher training and the relationship with knowledge, between 2006 and 2017 (Table 2).

**Table 2.** Articles survey (2006-2017)

Database	Year	Selected articles
<i>Scopus</i>	2006	01
	2008	01
	2012	01
	Subtotal	03
<i>SciELO</i>	2014	01
	2015	01
	2016	01
REPERES	Subtotal	03
	2007	03
	2009	02
	2011	03
	2013	04
	2014	06
	2015	02
	2016	01
	2017	02
	Subtotal	23
Total	29	

<sup>7</sup> "Every textual analysis, in order to be effectively executed, uses a collection of documents called corpus as its reference. Textual analysis represents the information contained in a given research work. That is why, in order to obtain valid results, it requires rigorous selection and boundaries (Moraes, 2003, p. 194).

After unitarizing abstracts, the following categories have emerged: a) school learning and experiences; b) knowledges and formative processes. The next section will present and describe how the relationship to knowing takes place in teacher training.

## LEARNING, KNOWLEDGE AND FORMATIVE PROCESSES: DISCUSSION AND ASSIMILATION OF RESULTS

The categories school learning and school experiences emerged from the following intermediate categories: context and meaning (voices of others and of the world), interaction, investigation (learning through research), personal development and representations/assimilation.

Charlot (2014) states that the teacher-student relationship has gone through significant change from 1950 to present days, whereas teaching methods and textbooks have suffered few alterations. Nevertheless, the school format, time/space, distribution of grades according to age, and the teaching and learning basic process have remained the same. Increasingly, young people go to school so that they can pass to the next grade. They never treat knowledge as a goal, see it as an intellectual task, or have pleasure with it. The basic premise of human capital theory – in which education is like capital and must therefore benefit professional life – is not exclusive to capitalists. The idea is also predominant in the minds of journalists, politicians (whether left-wing or right-wing), parents and students themselves. Consequently, there is a growing imbalance between what schools offer and what students and parents expect. That is why teachers have been facing more and more difficulties. (Charlot, 2014, p. 21).

In order to overcome such difficulties and have students find meaning in learning, it is paramount that teachers act as learning mediators by making use of dialectics and of different methodologies. Knowledge does not materialize on its own, but rather out of a solid relationship with learning (Charlot 2001, p. 149). Such relationship must involve investigative, problem-solving practices and the anastomosis of previous knowledge. In other words, a pedagogical attitude rooted on the resignification of learning.

As claimed by Charlot (2014), knowledge is a tool of communication with the world. It is an identity builder that affects both the teacher-student relationship and the construction of school knowledge. From this viewpoint, knowing means reaching social degrees which may be useful for a possible job in the future, for daily life and even for cultural growth. On the other hand, the meaning of learning relates to one's history, expectations, references, world view, relationships with other people, self-image and public persona (Charlot, 2000, p.72).

It must be taken into account that such multiplying individual voices are the voices of the Other, of the world, and that the complex relationships mentioned in the previous paragraph fill knowledge with meaning. To assist this reflection, Charlot devised what he called "knowledge balance", a methodological tool that has made it possible to detect inhibition when students are faced with school knowledge (at the moment they receive test scores, for instance), fear of making mistakes or embarrassment for not knowing something. Such outcomes contradict the expectation that the relationship to learning should be one that cherishes knowledge building.

Students relate to their day-to-day objects and practices, for example counting money. Therefore, in order to provide meaning to knowledge in the teaching-learning process, teachers must address issues arisen out of students' daily lives. From this perspective, teaching means motivating students to build their own knowledge, and transmitting a heritage of systematized knowledge left by previous generations of human beings. According to Bachelard's contributions, understanding that learning is born from questioning and leads to consolidated systems is of utmost importance. It is this intellectual journey that matters. Such journey implies that the teacher must not spoon-feed content or answers, but rather, and most importantly, stimulate questioning. As for students, they will walk alone at times, while being discreetly monitored by a teacher, and at others, they will walk with their teacher hand in hand. What matters is that students know where they are coming from, why they are moving forward, and that their destination is worth the journey (Charlot, 2014, p. 53).

Encouraging students to learn is not an easy task. No one likes what they do not understand or lack personal aptitude for. For this reason, teachers must build up a learning drive collectively with students, either inside or outside the school boundaries. According to Charlot (2014), one can only learn if they find pleasure in learning per se. From this point of view, teaching cannot be about transferring knowledge or content. By the same token, teaching is not an action from a "creator" that provides an idle and indecisive body with shape, style or soul. (Freire, 2011, p. 23). In fact, it is paramount that teachers do not provide ready-made answers to enquiries emerged from the learning process, but rather, instigate students to think, criticize and search for answers, thus making knowledge meaningful. Moreover, learning must not be solely limited to the school's boundaries. On the contrary, it is beyond school boundaries that we learn many – and very important – things, and that we have a relationship with the world, with others, with knowledge, with language, with time, that is different from the one we find within school boundaries. The process through which we learn something (regardless of what), takes on multiple and

heterogeneous shapes. School learning is one of these shapes. It is specific, valuable, but not unique. Although we must recognize the importance of school learning, we must also recognize that there are other kinds of learning. (Charlot, 2014, p.75)

From this perspective, learning is directly linked not only to the context and meaning we attribute to it, but also to the format through which knowledge is acquired. Learning is therefore viewed as a constant social practice that takes place on a daily basis. This is why it is necessary that teachers explore the concept of daily life in their classes. In doing so, students end up being more inclined to associate new knowledges to their personal experiences.

After mapping the scientific production, the following categories have emerged: school knowledge, pedagogical knowledge and disciplinary knowledge (Physics, Chemistry, Biology, Physical Education – technical and professional); and formative processes (identity, self-formation, formative trajectories). In the teaching field, Tardif (2012), presents four categories: professional knowledge; curricular knowledge; experiential knowledge; and disciplinary knowledge. Such categories interact and generate new knowledges, which are grounded on plural and multifaceted dimensions that are born from the personal experiences of teachers who are active subjects in the classroom—in other words, teachers whose daily praxis is based on the interaction between students and the world around them.

As for formative processes, Imbernón (2011) claims that educational institutions must renounce their status as a place where basic concepts are learned by transmission and reproduction of knowledge and knowledges (plural form), or by making use of activities that only require memorizing and transcribing. In reality, educational institutions must devote themselves to life in its full complexity. Therefore, teacher training no longer means merely transmitting academic knowledge or transforming students' common knowledge into academic knowledge. Such position must execute other functions: motivate; fight against social exclusion; stimulate participation; create group dynamics; stimulate a good relationship with social structures; stimulate a good relationship with community [...]. And incorporating all those functions obviously demands a renewal in teacher training not only in the early years of academic life, but permanently throughout the career. (Imbernón, 2011, p 14).

In this regard, continuing education is essential for teachers to resignify their learning and knowledges in order to reflect on their pedagogical practice. The relationships that teacher trainers establish with their professional knowledge emerge mainly from an institutional culture. To Nóvoa (2009), some of the continuing education programs have proven useless, and end up hindering teachers' daily routines. It is

necessary to relinquish the consumerism of courses offered by the present market which instill teachers with a feeling of being outdated. There is a need for investments in building collective networks wherein professionals can communicate and share their practice with peers, which will then make for an overall improvement in knowledge and technique.

In that respect, being a teacher is understanding the full scope of the school as an institution, becoming integrated into a profession, and learning from more experienced peers. It is at school and by communicating with other teachers that the job is mastered. Documenting practices and exercising self-reflection and self-assessment are central elements for improvement and innovation. This is the routine that enables teacher development (Nóvoa, 2009, p. 12).

Freire (2011) posits that teachers' continuing education must constantly (re)build knowledge, resignify learning and reflect about initial teacher training, as no one is a born educator or destined to be one. We make ourselves into educators when in practice and when reflecting about our practice (Freire, 2011, p, 58). In addition, teacher training is essential for the creation of inner and outer relationships in the professional world. Its objective is turning collective experience into professional knowledge, learning with the knowledge of others and linking teacher training to the development of educational projects at schools (Nóvoa, 2009).

In order to properly execute their job, teachers need to have access to new working systems and to be in a constant learning process. Learning is specifically important when it comes to the professional and learning aspects associated with educational institutions where their work takes place. Teacher training is effective when it contributes to both teachers' professional development in their work field and to the improvement of professional learning (Imbernón, 2011, p. 47).

In applying this logic, it can be said that knowledges and the formative trajectory question or legitimize the knowledge that has been put into the pedagogical practice of "knowing" and "causing to know". Teacher training has to develop teachers' ability to continuously modify educational tasks. This is, likewise, an attempt to adapt to students' diversity and context, something that may allow learning to go beyond school boundaries. It means that future teachers must be prepared to understand the transformations that emerge in the different fields of knowledge, receptive to pluralist conceptions and capable of adapting their actions to the needs of male and female students in each and every context. To do so, they must apply a new methodology and, at the same time, carry out constant research—the teacher is able to generate pedagogical knowledge in his practice. Such research, more than providing them with a heap of formal knowledge and pre-established

culture, must instill in them an attitude of investigation that considers both the theoretical and practical perspectives, observation, debate, reflection, contrast of points of view, analysis of social reality, alternative learning by case study, simulations and dramatizations (Imbernón, 2011, p. 64).

Another relevant aspect for teacher development is in-service continual education. It promotes sharing of pedagogical practices that emerge from what educators do and redo throughout their professional career, which creates a perspective of resignification of undergraduate teaching courses. Under this approach, Tardif (2012, p. 12-13) highlights that teachers never define their professional knowledge on their own and within themselves. On the contrary, such knowledge is socially produced and results from a negotiation among several groups. In other words, this knowledge production arises from developing an investigative drive grounded in argumentation, experimentation, observation and problematization. Such elements must be incorporated to the teaching practice so as to provide meaning to knowledges, regardless if these are curricular, disciplinary, professional or experiential. Teachers must problematize their classes, inquire and use day-to-day life examples, which will in turn promote more meaningful learning.

From this point of view, the work of a teacher consists in (re)constructing collective educational practices, since knowledge can only be built from peer interaction and with a reflexive pedagogical attitude. Therefore, teachers must guide students toward learning, as it is from (re)built knowledge between teachers and other individuals that learning is fostered and understood (Nóvoa, 2011). Likewise, even though the bond between learning and knowledge has been an absent paradigm in many pedagogical practices, learning does need knowledge, and the best expression to define how knowledge is acquired is "learning to learn". It is necessary to insist on the idea of focusing on learning, and that learning requires both students and knowledges. Learning does not take place without people and without a reference to its subjectivity, to its social contexts and to its sociability (Nóvoa, 2011, p. 6).

The notion of "learning to learn" within an assimilation process, leads to a learning-centered school, where students need to learn how to study. The drive for "learning to learn" can only be instilled by teachers when they promote autonomous learning and (self) knowledge, in a dialogical process of interaction and personal disposition. For this reason, teachers must also see themselves as intellectual and motivational leaders, whose pedagogical knowledge is linked to practical actions in the professional context itself. And such knowledge cannot be limited to identifying the necessary teaching skills to make the teacher-student relationship more effective, as

intended by more technical or functional perspectives. Pedagogical knowledge can neither be limited to the establishment of a few content units as a teacher's "basic science", nor to the improvement of the didactic content knowledge, nor to the expansion of the application scope of an instrumental creativity (Imbernón, 2011, p. 119).

Therefore, it is the role of teachers to adopt continual education in order to reflect and resignify the learning, knowledge and actions that have been built throughout their pedagogical practice. May such professionals be able to reinvent themselves by going beyond creativity, and to transform their pedagogical practice into collective learning experiences that will certainly foster students' drive for knowledge and learning.

## CONCLUSION

This study highlights how important it is for teachers to make use of different methodological resources, adopt practical learning strategies, and take into account their students' day-to-day lives. Such practice not only provides meaning to the content developed within the school boundaries, but also motivates students to learn on a daily basis.

It is also noteworthy that continual education not only improves teachers' performance by (re)building multiple practices in pedagogical environments and methodological approaches that focus on developing students' affective, emotional and cognitive features, but also contributes to cultural enrichment. It is believed that the voice of individual learners must be heard so that the most complex relationships between knowledges and practices are fully understood.

Therefore, when reflecting upon teacher training, one must seek to advance in terms of recognizing diversity and individual and collective learning rights. Furthermore, it is essential to valorize the Other through a humanistic, dialogical and knowledge-sharing conception that minimizes hierarchical postures (so common in the school environment). It is equally important to embrace a model of education that values students' idiosyncrasies, respects existing difficulties, their socio-cultural characteristics, and whereby teachers are able to do continuous research, redesign activities and innovate.

Lastly, we defend that the relationship to knowing in teacher training must consider not only the existing difficulties in the learning process, but also those pertaining to teachers' role as a mediator of the world knowledges, for himself and for the Other. In pedagogical practices, educators must consider students' identities, knowledge and culture. Teachers' formative journey is therefore essential to fully understand the interrelationships within curricular,

disciplinary, professional and experiential knowledges.

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## CONFLICT OF INTEREST

The author(s) declare no conflict of interest.

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<sup>i</sup> The term “knowledges”, in the plural form, will be used throughout this article as a reference to a set of different types of knowledge, namely: curricular knowledge, disciplinary knowledge, professional knowledge or experiential knowledge.

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