Conflating contrasting needs: Introducing a model for designing teacher research in sub-optimal educational contexts

Unire bisogni contrastanti: Introduzione di un modello per la progettazione di attività di ricerca da parte dei docenti in un contesto educativo sub-ottimale

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ABSTRACT
This paper tackles the issue of teacher researchers by offering a model for the design of teacher-led inquiries that meets both the theoretical and the practical requirements of scientific research in educational settings. Part 1 focuses on teachers' reluctance to undertake academic research during the course of their working year. Two practical reasons are identified, which explain teachers' lack of involvement with scientific investigations: excessive demands on behalf of policymakers and limited availability of resources. Part 2 moves on to the theoretical level and identifies two beliefs about knowledge that are culturally widespread, and which limit the academia's ability to embrace everyday workplace experiences as a type of scientifically informing educational practice. Drawing on Damiano (2015), the epistemological legitimacy of teachers' experiences is thus redrafted. Part 3 introduces a model for designing research activities in educational settings, so that no supplementary time or resources is required to pursue scientific goals, despite the manifold constraints of teachers' everyday work. The chief example described in this paper focuses on early school leaving and the possibility to convert an ordinary career day into an investigation based on visual ethnography, which aims to empower students at risk. Said case is rendered with a diagram, which constitutes a useful tool for designing research according to the model's guidelines. Finally, Part 4 assesses the viability of the model against a framework conceived for the meta-evaluation of evaluatory practices.

Questo articolo affronta la questione degli insegnanti-ricercatori proponendo un modello per la progettazione di indagini condotte dai docenti che soddisfino sia i criteri teorici che quelli pratici della ricerca scientifica svolta

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in contesti educativi. La Parte 1 si concentra sulla riluttanza dei docenti a intraprendere attività di ricerca accademica durante l'anno lavorativo. Sono identificate due ragioni pratiche per questo, che spiegano la mancanza di coinvolgimento del corpo docente: richieste esose da parte dei governanti [policymakers] e mancanza di risorse. La Parte 2 procede a livello teorico e identifica due convinzioni [beliefs] riguardo alla conoscenza che godono di ampia diffusione in diverse culture e che limitano la capacità, da parte dell'Accademia, di accettare che le pratiche quotidiane del corpo docente abbiano dignità di conoscenza scientifica. Seguendo l'ispirazione di Damiano (2015), la sezione ridefinisce la legittimità epistemologica dell'azione docente. La Parte 3 introduce un modello inteso a facilitare la pianificazione di attività di ricerca in contesti educativi, in modo tale che non siano necessari tempo e risorse addizionali; attraverso tali attività investigative, i docenti saranno in grado di condurre ricerca senza sottostare ai comuni ostacoli tipici della loro giornata lavorativa. L'esempio principale si concentra sull'abbandono scolastico e la possibilità di convertire una giornata dell'orientamento in un'indagine condotta per mezzo dell'etnografia visiva – la quale ha l'effetto di potenziare [empower] gli studenti a rischio. Tale caso è riassunto in forma grafica, in modo da fornire un ulteriore strumento per la pianificazione di attività analoghe. Infine, la Parte 4 valuta la credibilità del modello proposto, usando come mezzo di contrasto un quadro di riferimento [framework] concepito per la meta-valutazione delle pratiche valutative.

KEYWORDS
Teacher Research, Teacher Training, Educational Management, Epistemology, Qualitative Research.
Insegnante Ricercatore, Formazione dei Formatori, Dirigenza Scolastica, Epistemologia, Ricerca Qualitativa.

Introduction

How could teachers carry out research if their working environment is sub-optimal, not only in terms of scientific data collection, but also considering the overall availability of time and resources? In the present paper, I will maintain there is at least a reasonable way to do so. By following a *fourfold model* for planning teacher research activities, designers can quickly conceive of and implement activities that involve school faculties, and which are not detrimental to the overall workload balance. The 'big idea' behind the model is that certain activities – such as research, in-service training, etc. – should not be considered to be discrete courses of action that compete with each other. Rather, it is suggested school managers (or teachers *qua* leaders) operate from within increasingly integrated frameworks that cross the gap between education, policy-making, and scientific enquiry. There is already consensus about the fact communities of educators obtain increased benefits from shared practices than from open competitiveness (see, e.g. Whitmire, 2014, 43), but, rather than being limited to interactions between agents, such approach should be extended to processes as well.

In this paper, I will maintain that there are at least two practical reasons for teachers' reluctance to carry out research on the job: excessive demands on behalf of policymakers and lack of resources. However, progress towards teacher-led re-

search is restrained by two additional beliefs about science, which are common across several cultural backgrounds – namely: the idea science has a specific societal placement, and the conviction all discoveries should take the shape of confirmed theories with a universalistic flavour. By criticising said stereotypes, it is possible to legitimise teachers' actions from an epistemological point of view. In fact, such advance is already under way, as shown by the long-term success of several qualitative methodologies. This paves the way for deep interactions that move beyond the basic improvement of teacher performance, as they become veritable opportunities for teachers to become practice-informed educational investigators – but practical limitations remain to be dealt with. Because of that, the model I propose conflates different needs in a minimalist approach that might anticipate every event or activity schools or educational institutions are already accustomed to. According to the model, goals shall be identified, together with the most readily available methods to take them; moreover, roles shall be identified, in order to see whether there is someone who can take care of the issue. Eventually, these three elements will overlap with the aforementioned practical limitations: what resources can be used? What methods are effective without further investments? What course of action is the most convenient? Once the *situatedness* of the problem-solving scenario has been correctly established, it is possible for teachers to tackle the issue at hand with an investigative mind – with results ranging from simple data collection to outcomes akin to those of Action Research.

1. Reluctant investigators?

The need of teacher research is acknowledged as paramount by a wide range of educational studies, but it is at risk of being all talk and no action. Indeed, the number of teacher researchers remains scant compared to the overall workforce: for example, among the so-called 'Western countries,' research *on* teachers exceeds research *by* teachers (Holmqvist, Bergentoft, & Selin, 2018, p. 192). On the plus side, research led by practitioners is not considered as exceptional as it used to be a decade and a half ago (Watkins, 2006, p. 12). Positive trends emerged in East Asia, such as the Chinese "learning-*in*-doing" model and the Japanese "teachers' communities of practice." Since their appearance as attempts to move beyond a "practice to practice" approach (Paine & Fang, 2007, p. 286), said models have become the starting point of subsequent investigations by Fennoscandian professionals (Bergentoft, 2014; Selin, 2014; Holmqvist et al., 2018, p. 196).

And yet, teacher-led research remains a *desideratum* – especially for those who have experienced it first-hand. According to Watkins (2006, pp. 14–16), interviewed teacher researchers reported: increased agency, open-mindedness, renewed ability to review their efforts and gather evidence about their impacts, a sense of belonging to the school's community, and the perception what they do is useful to others. Similar outcomes have been recorded by Eilersten, Moksnes Furu, and Rørnes (2011, pp. 81–83): teachers who participated research-oriented pre-service induction displayed heightened confidence, morale, authenticity, and attention to fieldwork practices.

Hence, in light of these apparent benefits, what are the reasons for the relatively low density of teacher researchers in the landscape of compulsory education? As it will be shown in the following paragraphs, this depends on both practical and theoretical issues. On the practical side, hindrances to full-blown scientific investigations are manifold. Some of them draw on the general nature of the subject, whereas other ones depend on the current historical contingency,

which affects most education systems. Namely, the biggest culprit for our want of teacher-led investigations is the endemic lack of resources; however, engagement with academic inquiry is also hindered by epistemic attitudes and widespread nonreflexive approaches to research – i.e. stereotypes about what research should be about.

1.1. Policymakers and their demands

Generally speaking, educational research may suffer from lack of controllable time series, small sample sizes, and variables beyond the control of the educator. This adds to the widespread perception research is somehow difficult to understand and implement, together with the idea anything gains academic relevance only when validated by large longitudinal or cross-sectional studies. Teacher researchers may indeed get involved in "objective testing programs," such as those described by Stufflebeam (2000a, pp. 43–45). However, such participation is to be regarded as extraordinary and is detached from scientifically-informing everyday activities, inasmuch as the latter do not require standardised tests – nor the organising institutions needed to administer and analyse them.

That is, because broad quantitative studies appeal to policymakers – notwithstanding strong methodological and philosophical reasons to believe qualitative researches are no less useful than quantitative ones when it comes to policy goals (for an in-depth discussion of the issue, see Donmoyer, 2012, G. Anderson & Padmanabhan, 2016, Borgnakke, 2017, Lupton & Hayes, 2018).

Therefore, policymakers tend to impose daunting demands on teacher researchers, in face of an object of research that is, by its very nature, liquid and variable. As society changes and as children age, drop out of institutions, graduate, and join the workforce, members of the National Bureau of Statistics appear to be better equipped to understand the nature of education than teachers themselves – namely, because the latter ones are perceived as low-key players, unable to enjoy a bird-view of the subject matter owing to the constraints of their localized profession.

1.2. Limited resources

Even if the above degrees of uncertainty are dealt with and accepted as being par for the course, other external elements come into play that reduce teachers' capability to deliver results *qua* investigators. Hancock (1997) remarks that research constitutes "an extra layer of work" (p. 94) and that "teachers' working conditions militate against any activity that is not contributing to the 'hands on' work with pupils" (p. 89) – especially if rampant overcrowding is taken into account (p. 88). On a similar note, Watkins (2006, p. 15) reports widespread concern about the lack of time to carry out rigorous research activities, which echoes Zeichner's call for more time and resources (Zeichner, 1999). For example, "schedule conflicts" hinder continuing professional development in Czechia

(European Commission, 2019, p. 62), whereas teachers in Denmark, the Netherlands, and the UK have just too many teaching hours (pp. 71, 204, 285).

All of these hindrances result from contingencies that have affected the development of worldwide education systems – an example being that of staff shortages (OECD, 2005, p. 29; OECD, 2018, p. 350). Concerning the European Union, major incumbent or approaching teacher shortages have been reported in at least

20 countries out of the 28 surveyed: Austria, Belgium, Bulgaria, Czechia, Denmark, Estonia, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Romania, Slovakia, Spain, Sweden (European Commission, 2019, pp. 9, 19, 31, 60, 70, 80, 111, 132, 142, 153, 163–164, 174, 184, 195, 204, 225, 235, 244, 265, 275).

On top of that, difficult access to the most relevant publication outlets prevents teaching staff from making their experience public, possibly driving them away from carrying out actual research at all – see, for example, a failed attempt to implement academically validated teaching practices in Durham (MacLellan, 2016). Such trend is peculiar, as it contrasts with repeated academic attempts to collect evidence of teachers' professional experience. On their behalf, teachers fuel an extensive amount of grey literature about the teaching profession, but this is only partly acknowledge by means of metaliterary collections – such as the search engine devised by the University of Prince Edward Island (2018), or *MyIB*, an online platform created to favour the spread of narratives about teachers' everyday experience, their professional tools and innovative ideas (IBO, 2017).

2. Overcoming theoretical limits to teacher research

While the above points call for political decisions aimed at removing practical obstacles from the way of teacher researchers, other theoretical elements are present, which bias teachers' ability to carry out effective research. Namely, such hindrances relate to culturally accepted views of what knowledge is and how it is obtained. This section outlines two stereotypes of this sort: dominant practices of knowledge-ascription and the explanatory paradigm of knowledge. Both of them are not negative *per se*, but they become so whenever their dominance prevents alternative practices from blooming

and restrict access to the informed debate. According to Stufflebeam (2000a, p. 34), it is paramount to study "alternative approaches" as this practice highlights relevant conceptual issues pertaining current evaluation, consolidates new scientific practices, and eventually provides training material.

Consider, for example, a situation affected by over-reliance on the experimental paradigm. As Stufflebeam (2000a, p. 48) observes, "educators rarely can meet the required [...] conditions and assumptions" of experimental studies. Stufflebeam's acknowledgment of pre-existing limitations to experimental testing on behalf of teachers leads to at least two possible outcomes: (a) either teachers are excluded from the academic discourse on educational practices, or (b) an epistemology is drafted so that teachers' everyday activities may be framed within the domain of scientific practice. Given the former horn is supposedly undesirable, this paper opts for the second course of action. However, it does not advocate the inclusion of teacher research within the realm of science by adjusting *ad hoc* the definition of science itself; rather, this paper focuses on the need to find the correct ontological placement of teacher-led research in relation to scientific practice as a whole.

2.1. Tackling dominant practices of knowledge-ascription

How do beliefs *about* knowledge affect the ability to value non-dominant knowledge practices? Beliefs about what knowledge is – or what knowledge should be

about – affect our willingness to give value to individual epistemic activities. This is tantamount to saying human practices change their value depending on what counts as knowledge attribution – which occurs whenever we answer the question "What does it mean for *S* to know *p*?".

Davis' account of "ascriber contextualism" supports this claim: in fact, he acknowledges "variation in knowledge claims tracks variation in the ascriber's contexts" and the question as whether *S* knows *p* is, in most analyses, a "normative question about the proper standard [for knowledge attribution]" (Davis, 2015, pp. 401, 428)[1]. Hence, it follows it is our standards – and, I argue, our values – that function as motives behind knowledge attributions in social contexts.

Already in the late 90s, More and Muller remarked that concerns with the nature of the ascribers of knowledge had led to the fierce postmodernist critique of *power*[2] structures: that is, because it was shown ascribers 'in charge' favoured a dominant discourse over alternative ones, and displayed the tendency to dismiss anything that was not reducible to the categories they were used to abide by (Moore & Muller, 1999, p. 190). Such prerogative of attribution, exercised by power structures, holds fast even if modernist approaches transitioned from universalism to transcendentalism – as illustrated in a review essay by Delanty (2002, p. 84): this means that, notwithstanding the shift of science towards "naturalism," (Guba & Lincoln, 2000) lack of compliance may always be used as a reason for dismissal.

This is evident even in recent inquiries into teachers' access to and utilisation of academic knowledge. For example, van Schaik, Volman, Admiraal, and Schenke (2018) dedicate a study to the subject matter, but the narrative is still a dominant one. According to these authors, both academics and teachers develop knowledge; however, only the former type enjoys the longed-for label: "research-generated." Supposedly, teachers do indeed optimise the integration of personal and practical knowledge, yet they are mostly framed as the receiving hand of research, rather than being the giving one (p. 51). A similar approach was also adopted by Hemsley-Brown and Sharp (2003). By saying this, I do not intend to claim that investigating what universities can do for teachers is a pointless line of inquiry – quite the opposite, actually – however, I maintain it cannot be regarded as the only possible direction research dissemination can take.

In some academic contexts, the acknowledgment of how repressive dominant discourses resulted in a re-evaluation of everyday practices and qualitative studies that displayed little compliance with the dominant paradigm of attribution (Moore & Muller, 1999, p. 191). Conversely, the above-cited authors warn against shifting negative judgements from knowledge ascribers to actual knowledge, since isolated statements could still be purported to have knowledge value regardless of the credibility of whoever utters them: metaphorically speaking, one might say that,

1 Davis' research is aimed at showing how a "multivariate pragmatic theory" explains "linguistic evidence" about skepticism better than how "epistemic contextualism" explains it (Davis, 2015, p. 429). However, the foundational debate on skepticism goes beyond the purposes of this paper. Here, it will suffice to acknowledge Davis' acceptance that theories of knowledge entertained by interacting agents ultimately affect their willingness to value some knowledge practices rather than alternative ones.

2 Although the concept of 'power' is tendentiously negative in most postmodernist and post-structuralist accounts, this term is hereby used *not* in the sense of 'sovereignty' or 'social control' but rather in its more neutral sense of 'pervasive social relatedness' – that is, a terminological usage set forth by Foucault in his investigations (for a non-Marxist critique of the knowledge/power dyad, see Wang, 2011, p. 154).

just because the knower is regarded as an opportunistic liar, it does not follow everything he says is necessarily false, unqualifiable, or having only self-serving purposes (compare with Moore & Muller, 1999, p. 190). Thus, it appears we have the duty to dodge the ages-old bias: mistaking the evaluation of an agent with the evaluation of whether the contents of her beliefs are true in the actual world.

2.2. Beyond the explanatory paradigm of knowledge

Another stereotype about knowledge is that it is something that enjoys a prominently descriptive and explanatory character. Therefore, it appears to be something agents have, and not something they *do*. However, epistemological trends such as American pragmatism oppose this narrow view of knowledge and, by undertaking a more socially and environmentally conscious perspective, they stress on the constructed nature of social spaces, interactions, and the knowledge thereof (Parker, 1998, p. 106).

This paper maintains that even though there are subsections of reality that favour knowledge when it is obtained through the paradigm of the external observer, it is also true that, if by 'knowledge' we mean the act of becoming acquainted with the surrounding world, there are parts of reality that cannot be investigated without interacting with them *qua* participating agents. Consequently, in such contexts, increasing our body of knowledge is tantamount to taking up an active role in said contexts; as a result, it is harder to tell apart the development of knowledge from other interactive processes that concur to the emergence of knowledge itself. In fact, learning is a way of *doing* and, as such, it is a way to negotiate power relations between us and the surrounding world. This position is commonly known as "constructivism," and has shaped philosophy of education for several decades (Guba & Lincoln, 1990).

On a similar note, Heldke (1988, pp. 21–23) proposes an intriguing epistemology of cooking *qua* form of anti-essentialist inquiry. Drawing on views of how recipes work, there seems to be no possible theory of food without food-making actually taking place. Interestingly, food-making does qualify as an act of inquiry that displays all of the heuristic challenges of an art or craft, and it differs from other epistemic (i.e. knowledge-oriented) endeavours just because it reaffirms its own existence in the shape of tangible products, rather than readable descriptions thereof. Now it is possible to ask: over the course of their daily activities, are teachers more similar to physicists or to *chefs*? Even though the analogy with cooking holds fast only up to a certain extent,[3] it is still the case teachers do enjoy, willingly or not, real opportunities to become knowers *qua* actors in a certain context. Following the same line of reasoning, teachers' activities, even when they have small extent and scope, shall not be discounted from the ranks of epistemic enquiries. In the worst-case scenario, localised activities will have little global relevance, nevertheless they could still fuel discussion and provide preliminary grounds for future hypotheses-testing. In the base case scenario, they will become paradigmatic

3 The analogy is valuable to understand all teaching 'science' comes in the shape of a tangible product. By no means, I am trying to claim that teaching practice can be reduced to a handy cookbook that hosts all necessary procedures to bake a perfect cake. In fact, even the most advanced cookbooks are but traditional guidelines, which are doomed to remain unheeded if not met with the creativity of a cook who adapts them to her specific culinary context.

examples of knowledge-acquisition on behalf of educational professionals and provide an account of the educational reality that escapes broader normative descriptions.

2.3. Epistemological legitimization of teacher researchers

Such epistemological concerns have manifold consequences with regards to education. (a) On the one hand, we have an invitation to steer away from dominant discourse and begin to value practices that have little to do with it. Such is precisely the case of everyday teacher practices and small-scale cases, which, if left unaccounted for, will escape the opportunity to contribute to our current knowledge of the field. (b) However, on the other hand, it ought to be acknowledged that the stress on such cases shall be made available to scrutiny on behalf of the dominant scientific practice, so that knowledge is not left to rest alone on its idiographic bedrock.

(a) Considering the first pole, it is not possible, given the limited scope of this essay, to examine all methodological paradigms that meet both the requirement of empowering their users and being suitable for use in a classroom or similar educational context. However, for the sake of the argument, it will suffice to outline three of them, in order to show research methodology has already developed detailed ways to take into account activities such as the teachers' ones – and emphasize their scientific relevance.

Critical reflection. The least resource-consuming approach is critical reflection. Damiano (n.d., p. 5) recalls reflection-in-action was launched by the works of Schön (1983, 1986, 1991, 1992), Schön and Rein (1994), and Striano (2001). As shown by Ormastroni de Carvalho Santos (2019), reflection transforms teachers into researchers, provided it takes the shape of a routinary practice and is, in itself, a form of appropriation, since it breaks the chains that bind professional teachers to practices and instructions that have been conceived by others (pp. 89–90; for another perspective on critical reflexion, see also Magalhães & Fidalgo, 2007).

Action research. Another profitable research methodology teachers can easily implement is Action-Research. To summarize it with the old-school words of Edward M. Glaser:

> It is most distinctive in emphasizing the development of research within the organisation. The type of research and its methodology are influenced by its concurrent conduct with the ongoing activity of the organization. The results of the research, while primarily intended for the organization itself, may prove useful to others and contribute to behavioral science itself. The model assumes the action research to be a continuous process of research, action, evaluation, and more research (HIRI-NIMH, 1976, p. 67)

Howell (2013), who provides a viable account of said investigative practice, observes Action Research fosters subjects' participation to data gathering and analysis, thus providing "a democratic and open environment" (p. 96). Moreover, as already outlined in the quotation above, Action Research is meant to trigger a virtuous cycle by means of recursive feedback loops (see, e.g. pp. 98–99). Given feedback is so important for the purposes of Action Research, Howell correctly frames participants as "reflective practitioners" – that is, individuals who "embrace" their "ignorance", put themselves at stake, and seek to tackle a problem from different perspectives (see also Schön, 1983, 301; Margiotta, 2011, pp. 78–80).

Ethnographic research. Again, teachers have ready at hand the possibility of practicing another investigative style with sufficient ease: ethnographic research. Ethnography belongs to a long and incisive tradition within the field of social sciences and has undergone several paradigm shifts, which have eventually resulted in a broader set of qualitative methods for teachers to use. An example thereof is that of the *International Handbook of Interpretation in Educational Research*, edited by Smeyers, Bridges, Burbules, and Griffiths (2015). This "reference book" (Griffiths, Bridges, Burbules, & Smeyers, 2015, p. xvii) sheds light on a "variety of forms of research covering a broad range of issues and settings" (p. xviii) and prominently features ethnographic approaches – not only with education as their object of research (Dovigo, 2002), but also as the essential element of educational practices (Leoncini, 2011; Griffiths et al., 2015, p. xix; see also Smeyers et al., 2015, pp. 679–864).

(b) Regarding the second horn of the conundrum – that is, the need for a paradigm-friendly scrutiny of research outcomes – things turn out not to be as linear as expected. For example, Kershner, Flutter, and Rudduck (1998) report about a "teacher research" experience, which took place in Cambridgeshire (p. 59): although the dissemination of results was met with important feedbacks on behalf of the academic and teaching community (p. 62), the research had also the opposite effect, insofar as it enabled teachers to review the relevance of other academic works with regards to their practical experience (p. 61). This is evidence intersubjective scrutiny of research outcomes is always mutual and hardly one-sided (as advocated, e.g., by Bassey, 1998, p. 23).

In a paper conceived for one of the Italian societies for teacher training,[4] Damiano (n.d.) provides a summary of how teachers' knowledge has been dealt with over the past sixty years (1960–2015?). Originally, teachers' knowledge was assessed for bureaucratic purposes, in order to meet political and economic goals (p. 1). In the Sixties, academic research had teachers as its preferential subjects of study: it could bear either on teacher requirements, teaching processes, or learning outcomes (p. 1). The underlying assumption was that having good teachers entails having good students, as if this was a basic and undeniable output of the educational process (p. 1). However, research focused too much on breaking down processes to their "atomic" components and, notwithstanding the analytic effort, was hardly able to predict good outcomes as the consequence of teachers' individual actions (p. 4). Only later (Tochon, 2000) teachers began to be considered as privileged epistemic subjects – that is, sources of knowledge and not cases to be studied (Damiano, n.d., p. 5). In this latter perspective, teachers are regarded as carriers of rational practical knowledge (pp. 6, 20–21): (a) *rational*, since it uses a goal-oriented mind to deal with ordinary reality, which could be rationally understood; (b) *practical*, because it supersedes "one-size-fits-all" [*passe-partout*] solutions.

In a later work, consistently with what stated above, Damiano puts forwards an agenda for Didactics, which he acknowledges to be the branch that better addresses educational issues in a practical light – that is, with materials and methods in mind (Damiano, 2015, pp. 28, 32–34). In fact, according to Damiano's historical recount, *Pedagogy* is mostly a normative endeavour, which explores what *should* be done (pp. 25, 27); in other words, Damiano views Pedagogy as something that is still enslaved by the explanatory paradigm. Conversely, *Didactics* gets her hands

4 *Organizzazione per la Preparazione Professionale degli Insegnanti* (OPPI): http://oppi.it/.

'dirty' (p. 28) as is thus more akin to naturalistic and constructivist endeavours. Given the barrier between quantitative and qualitative studies has been taken down, he argues, teachers are now closer to experimentalists and, as such, they are better able to overcome the normative web of *a priori* pedagogy and become the pivotal players of scientific approaches to teaching and learning (pp. 33– 35): such is also the position of (Guba & Lincoln, 2000), who advocates triangulation between different investigative standpoints.

The emerging result of such 'bottom-up' re-appropriation of the scientific discourse on behalf of teachers *qua* researchers is not the unilateral dismissal of the universal value of knowledge, but rather the acknowledgment that such all-encompassing value is unachievable unless we recognise single instances of knowledge should always be *locally* validated. Namely, (a) If the acritical universalism of knowledge is upheld, it follows contingent classroom episodes will be labelled as having little value, together with problem-solving practices that are heavily dependent on the behavioural outlook of participants and their past learning experience. (b) However – and consistently with the need to place knowledge *locally* – it could be objected that the universality does not entail knowledge is necessarily decontextualized. Quite the opposite, indeed: if appropriate context is not specified, it is hard to make sense of claims and statements, let alone the practices they are meant to express. Of course, we demand each practice enjoy some degree of repeatability or reproducibility, but it does not mean they ought to be a 'one-size-fits-all' pair of shoes (see above).

As Parker wrote: "a non-perspectival reality, reality-in-itself, is merely a regulative idea of inquiry and never to be achieved" (Parker, 1998, p. 97). Later in the same text, when commenting Rorty's narrative of how modernist approaches were overcome by Freudian inquiries, he remarks:

> We do not have an innate and universal conscience, [Freud] argued: conscience, like mind, is local; morality, like reason, is simply a form of adapting. Actions are effective not because they are subordinated to sacred or secular laws, or by past history, traditions, one's past reactions to authority, trauma, and so forth, but because they are adaptive (Parker, 1998, p. 105).

That is, not to say teacher research is eminently Freudian, but that knowledge shall deal with the *situatedness* if its instances, so that, the more adaptive, the better – on pain of having to pursue unachievable structural ideals, which supposedly overcome all the needs of the knowing agent.

3. Introducing a model for teacher research design

Considering what was established in *Part 2*, how do we reconcile the epistemological legitimacy of teacher research with the aforementioned limitations in terms of resources and policymaking? The conundrum goes as follows: even if, theoretically speaking, teachers are fully qualified to be tomorrow's (and today's) educational researchers, how could the working context be arranged in order to reduce practical obstacles to said investigative practice?

Since the goal is that of reconciliating lack of resources with epistemologically viable investigative activities on behalf of teachers, the following procedure is used to set the frame of what needs to be done:

- Identify a desirable *goal*, which usually has a specific type of agency associated

to it (possibly by means of evidence-based data on the subject matter);
- Identify the anticipated *dimension of agency* (e.g. a certain organisational set up, a "role" to be fulfilled, etc.);
- Identify a *method* to achieve such goal. Said method may not be 'state of the art' but it should enjoy its own history of validation and usage, unless the designer intends to use subsequent activities for pioneering purposes (that is, something that often goes beyond the scope of a single educational institution);
- Identify a *context of implementation*, chosen among the available ones (i.e. without introducing extra time requirements or activities for which no allowance has been provided);
- Consider achieving all of the above by means of *research* – provided it is correctly placed within the broader scope of scientific inquiry, as per *Part 2* of the present article.

Because the consolidation of the latter point depends on choices regarding the former four elements, I dubbed this procedure *fourfold model* (more about this in *Section 3.5*). As it stands, the model is an abstract construction: that is, this model is not a "conceptualisation [...] of what occurs" (like, e.g. a mathematical model) but a model "for conducting studies" – that is, a series of guidelines (Stufflebeam, 2000b, p. ix).

Accordingly, the fulfilment of each entry by means of actual instances ('saturation') is up to whoever designs the research activity – be it managers, teachers, or support staff. In order to better elucidate the flexible nature of this minimalist model, the next section will offer a specific example of saturation, enticed by the need to avert a quite common risk among students: early school leaving.

3.1. Fourfold model: a scenario

This scenario postulates the need to implement teacher research in a school with poor availability of funding, which is located in a country where some professionals are hardly available, and students experience relatively high dropout rates. Consistently with the aforementioned model, the faculty elects to carry out research in unison with other planned activities, as the yearly schedule is tight, and the public administration system does not allow for additional investments.

The model is fulfilled as follows:

- *Goal:* reducing secondary school dropout is recommended, since "[it] significantly reduces [early school leavers'] opportunity to qualify for non-elementary occupations, especially in countries that have experienced increased demand for skilled workers" (Mussida, Sciulli, & Signorelli, 2018, p. 564);
- *Agency:* dropout is usually taken care of by a counselling team, although school-wide approaches are warmly recommended (Flowers & Robinson-McDonald, 2014, p. 493).
- *Method:* research shows dropout may be averted by means of "individual approaches" in the fashion of "solution-focused brief counselling," e.g. for the purpose of increasing a student's own "self-confidence" and "self-esteem" (Flowers & Robinson-McDonald, 2014, pp. 492–493).
- *Setting:* however, taking into account the *local* setting, it emerges there is no availability of professional counselling in the short term. This is typical of coun-

tries such as Italy, in which "counselling is considered to be in the very early stages of development" and usually takes place without the school setting (Alvarez & Lee, 2012, 46). It follows the context of implementation shall be chosen among the available ones, that is, limitedly to the affordances of the current school setting rather than the desired ones. The school faculty as a whole, upon suggestions collected from individual teachers, may elect to concentrate efforts on the school's *career day*, since it is a structured event for which resources and time have already been allocated.

- *Research:* if qualitative research is to be undertaken from an anti-authoritarian standpoint (see *Section 2.1* – above – and compare with Marcelli, 2016, pp. 49–50), ethnography may be adopted as a research method (see *Section 2.3*, above) and leadership could be distributed among participants. For example, teachers may elect to implement the approach devised by Holm, Londen, and Mansikka (2015): in order to prepare for the planned career day, students are required to take pictures that represent their identities (p. 757). Whereas the original study focused on cross-cultural identities (p. 778), in this novel case students will tackle their strengths and be required to picture what makes them valuable. Since this type of photography is "participatory" (p. 774), it has an empowering effect, thus boosting students' self-esteem. Eventually, teachers may carry out fake job interviews that will serve as a supplement to the students' own visual interpretations (compare with Holm et al., 2015, p. 754).

This example goes slightly beyond fostering teacher research. In fact, unless teachers are the only ones who analyse data, it is arguable this constitutes also a case of student research. Yet, this is somehow to be expected, given most research activities undertaken at this level achieve their results not only by means of confirming explanatory theories but, first and foremostly, by effecting tangible results in the social fabric (see *Section 2.2* above for a 'culinary' approach to research by Heldke, 1988).

Other than locally relevant goals, this kind of inquiry might as well contribute to paradigm-driven academic research: e.g. as a case of heuristic production of hypotheses, as fodder for the testing of previously established theories, or by contributing to broader ethnographic studies. Finally, it ought to be remarked that designers may always elect to shuffle the order of each of the first four elements – e.g. by privileging roles over goals, or methods that are conveniently available over issues for which resources are wanting.

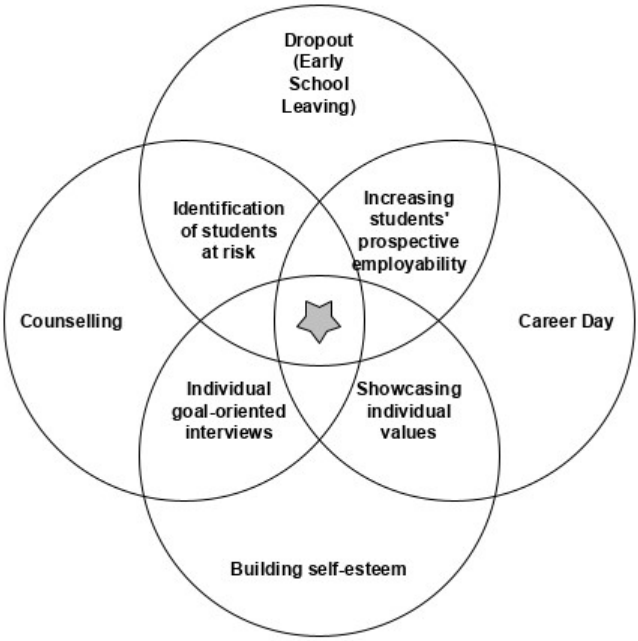

Figure 1 - A visual display of the fourfold model for teacher research design: research takes the place of the central star, at the intersection of all elements.

3.2. The fourfold model: a graphic appraisal

In order to better appreciate the above example and how to best utilise the *fourfold model*, I suggest representing it by means of Venn diagrams, according to a fashion that is commonly used to illustrate the Japanese concept of *Ikigai* (see, e.g., Huckaba, 2018). This graphic rendering does not emphasize the sequence through which each of the starting elements should be addressed: in fact, temporality is better addressed by picking one vertex and treat it as an arrowhead, as suggested by Guba and Lincoln (2000).

However, the picture allows designers to explore mediating actions, which lie at the intersection of each couple of sets. Clockwise, from the top left:

- *Counselling + Dropout:* counselling interacts with dropout rates by acting with preventive measures.
- *Building self-esteem + Counselling:* counselling can build learners' self-esteem by means of individual interviews (Flowers & Robinson-McDonald, 2014, pp. 492– 493).
- *Career Day + Building self-esteem:* being the only setting available for implementation, career day usually offers students an opportunity to shine for reasons that are not necessarily related to their grades, but which draw on their passions and aspirations. It is the perfect opportunity to portray oneself as a valuable individual.
- *Dropout + Career Day:* early school leaving is a strong predictor of low employability (Mussida et al., 2018, p. 564).

Differently from *Ikigai*, teachers shall put *research* at the centre of the diagram. The four starting elements, together with the four derivative actions, may be conflated in a single question: "What is it that allows individuals to showcase themselves, increase their employability, expose vulnerabilities, and could be additionally tackled by means of one-to-one interviews?" The answer, as detailed above, is that of conceiving of a student-led *visual ethnography* supplemented by mock job interviews in which students explain their choices (compare with Holm et al., 2015). Eventually, all visual products could be collected and analysed as a whole, in order to highlight possible structural weaknesses.

4. Model assessment

The above *fourfold model for teacher research design* is crafted in order to abide by assessment guidelines such as the ones proposed by Stufflebeam (2000a). On occasion, Stufflebeam's edited work assumes separation between evaluating agents, the program to be evaluated, its outcomes, and its beneficiaries. However, given it fosters development by means of returning feedback to learners, evaluation is viewed as central to all pedagogical endeavours: consequently, over the course of his meta-assessment, Stufflebeam shifts his attention towards specific forms of evaluatory practices that enjoy the merit of promoting equal access and opportunities to all educational stakeholders – i.e. "social agenda-directed/advocacy approaches" (p. 68). The nature of the latter reflects the emancipatory goals set out in *Part 2* with regards to the appropriation of scientific research on behalf of teachers. The following framework for the assessment of the *fourfold model* is thus drawn on (Stufflebeam, 2000a, p. 36):

1. *Purposes served, typical questions addressed and their sources*
2. *Role of actors and stakeholders in the evaluation process*
3. *Methods employed and cues used by teachers and researchers*
4. *Timing and situatedness (where and when the model might be used)*
5. *Weaknesses*
6. *Strengths and benefits*

Items 1–4. As anticipated, the first four elements of assessment are already factored in the model as its most essential constituents – namely: *goal(s)*, *agency*, *method(s)* and *setting(s)*. (a) Concerning its goals, the model is designed to be multi-purpose. Questions arise from contextual elements and, on occasion, issues are addressed only if resources are available to tackle them. (b) Stakeholders-wise, the model is designed to have teachers appropriate and promote scientific research on the job. Thus, the model could be regarded as a form of *empowerment evaluation*. Although it does not abide by the steps outlined by Fetterman (2000), it does indeed share some of its background assumptions (pp. 395–396): thanks to its minimalist design, it constitutes a call for teachers' self-sufficiency, but without burdening them with extra workload (see the paragraph below: *Timing*). (c) Three methods have been suggested for quick implementation of teacher research (see *Part 2*). However, the model is open to alternatives and teachers are recommended to familiarise with whatever technique might suit their needs. In fact, give different approaches are not discrete and do often overlap (Stufflebeam, 2000b, p. ix), teachers are invited to make choices based on convenience and on their previous training. This includes heavy use of quantitative inquiries, if it is sound to do so. (d) Another aspect of the model's design is that it is meant to be used in context

Item 5 (weaknesses). The most prominent weakness of small-scale qualitative enquiries is that of "ideological marketing." That is, teachers might be tempted to invest time in practices which are advertised as promoting educational professionalism, but are, in fact, just means of self-promotion. Drawing on Ferguson (1999, pp. 2, 12),[5] Stufflebeam (2000a, p. 37) warns against biased selection of testimonials, overreliance on anecdotes, cherry-picking, and cover-up of undesirable outcomes:

> There is a concern that these approaches might concentrate so heavily on serving a social mission that they fail to meet the standards of a sound evaluation. By giving stakeholders the authority for key evaluation decisions, related especially to interpretation and release of findings, evaluators empower these persons to use evaluation to their best advantage. Such delegation of authority over important evaluation matters makes the evaluation vulnerable to bias and other misuse. Further, if an evaluator is intent on serving the underprivileged, empowering the disenfranchised, and/or righting educational and/or social injustices, he or she might compromise the independent, impartial perspective needed to produce valid findings, especially if funds allocated to serve these groups would be withdrawn as a consequence of a negative report. In the extreme, an advocacy evaluation could compromise the integrity of the evaluation process to achieve social objectives and thus devolve into a pseudoevaluation (Stufflebeam, 2000a, p. 68).

Notwithstanding the above, this author reports his assessment is based on professional experience and not on systematic surveys of different approaches (Stufflebeam, 2000a, p. 36).

Another analogous weakness becomes apparent if there is a systematic "refusal to share results." Much like the program evaluators described by Stufflebeam (2000a), teacher researchers shall always share their results (even if negative) with relevant stakeholders. Failure to do so biases their research activities, in ways that are similar to "politically controlled studies" tainted by conflicts of interests (Stufflebeam, 2000a, pp. 38–40).

Item 6 (strengths and benefits). Traditionally, accountability studies are meant to have leaders perform efficiently with regards to the demands of a financing body constituted by stakeholders (Stufflebeam, 2000a, p. 43). Hence, since the model anticipates teachers will take up active leadership roles in designing and conducting the research activity, they become no less accountable than their supervisors and, as such, they rightfully expose their actions and decisions to the scrutiny of their supporting community. As pointed out by Stufflebeam (2000a, p. 40), "quasi-evaluation studies" may be too narrow to validly assess entire programs; however, they are valuable inasmuch they are able to tackle specific objectives (Stufflebeam, 2000a, p. 41).

Moreover, Stufflebeam (2000a, p. 47) claims that it takes "a huge outlay of time and resources" to implement tests that enable learners to demonstrate achievements by means of qualitative outputs. However, the existence of teacher researchers lightens up such burden, since their testimony of everyday learning actively contributes to the outlining of a program's own efficacy. In other words, whereas abundant resources are required to enact top-down performance testing, teacher researchers constitute a viable bottom-up alternative to said approach. Consider, for example, photographs taken by students: the warning threshold for students at risk is set by teachers, who manage to organise a collective event in a way that challenges their best students and, at the same time, promotes the well-being of underachievers by offering them extra evaluation and visibility. All of the

above, without the necessity of transforming themselves into highly specialised investigators.

I maintain the model's own simplicity and openness to feedback makes it resilient when designers are eventually met with failure. This does not necessarily mean the model is substandard; rather, it is the sub-optimal setting, together with the 'liquidity' of all educational endeavours, that should be investigated should things result in unexpected (and, sometimes, undesirable) turns of events. In order to smooth out the entire process of revision, it is recommended teachers adopt conflict-resolution strategies whenever attrition emerges.

Conclusions: from experience to science

Professional educators can be influenced by concurrent biases, so that they regard a good share of their activity as if it had simple experiential value and not a scientific one. However, the sector seems to suffer from a long-lasting dichotomy between practitioners and scholars, which nonetheless resulted in overlapping areas of interest: academics actively seek to both collect and influence teachers' views on education, inasmuch as policy-makers have begun to demand teachers take up the role of self-sufficient researchers. Such need prompted the creation of the model outlined in this paper: that is, a tool for teachers and school managers, which enables them to design research activities without dispensing with more compelling scheduling constraints. The model, in its minimalism, requires designers to identify goals, agents, methods, and settings – grounding their choice on their actual affordances, let alone the availability of resources. A design sample has been provided, which details the way each separate element could be arranged in a way that averts the most obvious constraints in terms of time and resources, but which also complies with the epistemological requirements of teacher-led inquiries – namely, deliberating on an investigative method to discover potential early school leaders and increase their self-esteem. Moreover, said model allows teachers to display a certain degree of leadership, since they take up an active role as scientific investigators (visual ethnographers) and, eventually, school counsellors.

Prospective research in the field will bear on the validation of this model, as well as its implementation in actual educational settings. Moreover, the undersigned author anticipates the need for further integration with previous works on gender-based qualitative research in schools – especially when epistemological compliance has already been established (e.g. Marcelli, 2016).

Acknowledgments. Professor Umberto Margiotta's sudden demise marked a loss for Italian pedagogy. His advice and supervision was welcome among scholars and teachers of all ages; moreover, many of those who did not have the luck to meet him in person have benefited indirectly from his active role in the management of higher education institutions – with particular regards to teacher training programs. After I finally submitted the required changes to this article, the editor of this issue gave me the sad news and disclosed Professor Margiotta had been one of the reviewers of my work. Although I feel compelled to take responsibility for all the imperfections of this paper, it must be acknowledged that even humble works such as this one would not have been possible without Professor Margiotta's service to the profession.

Poi ch'innalzai un poco più le ciglia,
vidi 'l maestro di color che sanno
seder tra filosofica famiglia.

Dante (*Inf.* 4.130–132)

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