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Teachers' beliefs as a component of motivational force of professional agency

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2019-06
Elsevier B.V.
http://hdl.handle.net/10138/328680
Kramer, M & Engestrom, R 2019, 'Teachers' beliefs as a component of motivational force of professional agency', Learning, Culture and Social Interaction, vol. 21, pp. 214-222. https://doi.org/10.1016/j.lcsi.2019.03.007

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Manuscript Details

Manuscript number	LCSI_2019_28
Title	Teachers' beliefs as a component of motivational force of professional agency
Article type	Research Paper

Abstract

This article investigates teachers' beliefs – addressed here as worldviews – in the context of educational change. The intention is to develop a dynamic approach according to which worldviews are professional resources of meanings and personal constructs. We questioned what constitutes their 'mental realm' and how they, referring to subjective realities of a person's world construction, can be conceived as collective and professionally shared. The topic was tackled theoretically in the frame of a cultural-historical approach to mind in which we drew upon insights of the integrative concept of meaningful activity. Worldviews were addressed in a school-based development of a secondary school in Austria when the teachers were updating their school's profile. A special interview method (Ultimate Meanings Technique, UMT; Leontiev, 2007) was used to assist teachers and mediate their discussions on worldviews. In the findings, we propose methodological ideas for addressing 'the mental' and approaching worldviews as a type of tertiary artefacts, discuss the role of the UMT interviews in the school-based development and draw attention to a historical tension inside professional vision. The article underlines the importance of worldviews for creating historically responsive space of core meanings and for strengthening professional power of educators' taking agency for change.

Keywords	worldview; teachers' beliefs; professional values; double stimulation; tertiary artefacts; educational change;

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Teachers' beliefs as a component of motivational force of professional agency

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1. Introduction

> "We do not see things as they are, we see them as we are."
> (Anaïs Nin, 1961, p. 124; cited in Leontiev, 2007, p. 244)

The implementation of new educational policies never takes place in a vacuum. Teachers that so far have had more or less subjectively and collectively valid and viable definitions of their schools and of their own roles within them find themselves amidst transformations in which they actively have to rethink and redefine both. In many countries across the world, mutually conflicting reforms, their consequences and justifying actions being in tension with ideals and concepts, comprise teachers' current

reality of schools. Having examined and followed educational change for decades, Fullan (2016) views the change essentially multidimensional and addresses a *new meaning of educational change* which puts more emphasis on changes in beliefs on the purposes of education, challenging core values held by individual teachers and other change producers. According to Fullan, working on the meaning of education and definition of change is all the more important because large-scale and more complex reforms are being attempted.

In several publications, also Biesta (e.g., 2009; 2013) has given attention to the trend in which the question of *purpose* in education becomes more and more marginalised in an age of measurement of educational achievements and instructional performances. He (2013, p. 2) argues that there is a tension between subjective realities of policy makers who look at education in the abstract and from a distance and mainly see it through statistics and performance data, and of teachers who engage with real human beings and realise that education cannot be changed that simply or that it can only be done by paying a very high price regarding human learning. Biesta (2013, p. 46) expresses his concern that the pedagogical shift from teaching to learning (due to constructivist pedagogy) has led to "a certain embarrassment among teachers about the very idea of teaching and about their identity as teachers". In their study on teachers' beliefs, Biesta, Priestley and Robinson (2015) found that the teachers saw the purpose of education more in terms of particular instrumental aims rather than with regard to the bigger question of what education is *for*. In addition, the researchers paid attention to the absence of discourse about educational values in teachers' interviews carried out in the context of curriculum reform.

The present paper deals with teachers' beliefs and core values on the background of educational change. These are conceived as resource that teachers have, from which they may contribute to the further development of their profession. Thus, the paper is concerned with teachers' professional agency and argues for the need to think of agency as involving commitment and accountability to a vision of what education should be, which has been created by the profession. As Edwards (2015, p. 784) comments, agency involves "being explicit about what matters to you as a professional, revealing your professional motives, i.e., commitments, and being able to align your motives with those of others" (see also Santoro, 2011; Stillman & Anderson, 2015). The critical point here is how the teachers' core values referring to subjective realities of a person's world construction can be conceived of as collective and

professionally shared. This article is an attempt to address the 'mental realm' of core values or inner thought, and teachers' professional challenges associated with them.

The paper draws upon cultural-historical activity theory, particularly its insights on cultural mediation (e.g. Arievitch & Stetsenko, 2014), and includes an experiment of using a special interview method (*Ultimate Meanings Technique*, UMT), which was originally designed as a technique for examining "the system of a person's beliefs about the goals and meanings of human life" (Leontiev, 2007). The interviews were carried out as a part of school-based development in which a teachers' team was acting on their school change. The development involved a task of challenging and reformulating the school's guiding principles, or local policy, which sums up the school's core duties, strategy plan, and mission statement. These form a school profile document which can be seen as reflecting the professional stances of teachers as well as the respective educational policies, and, in a wider sense, the *zeitgeist*. The school-based development took place in a relatively small (14 teachers, about 100 students) rural Austrian lower secondary school (students aged 10–14) which, as part of a nationwide reform, was amongst the last secondary schools to undertake the transition from hitherto *Hauptschule* (general secondary school) into *Neue Mittelschule* (new secondary school; see Austrian education system, 2018), having completed this transition by the end of the academic year 2017/18. The national reform is supposed to lead to a stronger focus on individualisation and inclusive education, while at the same time it emphasises the qualification of the students which is defined by sets of competencies that are assessed through standardised tests.

While Austrian law provides a broad framework for the organisation of schools, it falls to the individual team of teachers to locally interpret these tasks, formulate goals and visions, work out strategies of how to achieve them, and pronounce the school's localised mission (see http://www.sqa.at, 'Schulqualität Allgemeinbildung'). The first author has been teaching at the school for three decades, and as a young teacher witnessed the original formulation of the school's guiding principles back in the 1990s. These mainly concentrated on learning outcomes, on 'demanding and fostering the students' performance', and on 'keeping order'. In the wake of a major school reform it thus became obvious that the guidelines had to be rethought and reconceptualised.

The paper is structured as follows. We start by searching for a theoretical understanding of core values first conceptually and then in the social world of the teaching profession. In this search we use 'worldview' as a keyword. Thereafter, we

give an account of utilising the UMT method and how the outcomes were used for challenging and reformulating the school's guiding principles. In the findings of the paper our focus is on conceptual and methodological issues in approaching worldviews as a component of motivational force of professional agency in school-based interventions and educational research. The paper discusses methodological propositions based on the integrated concept of meaningful activity, worldviews as a type of tertiary artefacts, and the role of UMT interviews in the school-based development. In all, the investigation underlines the importance of worldviews as imaginative constructions in developing capability of transformative professional agency.

2. The concept of worldview

The research on values in education is multiple and includes a variety of approaches to ethical and moral matters in teaching and how teachers think about them (Bullough, 2011). In this paper we understand core values as parallel with worldviews. This approach allows us to limit the focus on respective definitions and concentrate on subjective realities of a person's world construction. Based on his review in literature across psychology, philosophy, and anthropology, Koltko-Rivera (2004, p. 4) has combined different views and offers a general definition of worldview:

> "A worldview is a way of describing the universe and life within it, both in terms of what is and what ought to be. A given worldview is a set of beliefs that includes limiting statements and assumptions regarding what exists and what does not (either in actuality, or in principle), what objects or experiences are good or bad, and what objectives, behaviours, and relationships are desirable or undesirable. A worldview defines what can be known or done in the world, and how it can be known or done."

Concerning teachers' worldviews Schraw and Olafson (2008) make a distinction between epistemological and ontological worldviews in which the former refer to the origin and acquisition of knowledge (what can be known and how it can be known), and the latter to the nature of reality (what is and what ought to be or is desirable). Special interest of educational research has been in the issues of epistemological beliefs and personal epistemologies of students as well as (to a lesser extent) teachers. Koltko-

Rivera's investigations led him to the conclusion that behind many ways of defining a worldview is a lack of theory about it. He then elaborated an integrated theory, which "may be cast as a phenomenological-cognitive-social hybrid that makes allowances for psychodynamic and dispositional influences on worldviews as they affect behavior" (Koltko-Rivera, 2004, p. 36). The author sought to contribute to worldview research agenda with a unified vision of personality in the domain of social psychology. Nevertheless, he noted the limitations of his theory and pointed to the evidence that worldview is an aspect of the self that develops over time, mediated by culture.

This paper, drawing upon the cultural-historical approach to mind, takes a theoretical stance in which the culture is at centre in defining worldview. Dmitri Leontiev (2007, p. 244) points out that a common feature of many concepts parallel to worldview, such as meaning, personal construct, experience and significance, refer neither to the reality of the surrounding world nor to the reality of the individual, "but rather to the reality of links between the individual and the world". He (Leontiev, 2012, pp. 14–16) argues further that the theories of needs which connect individual-world relationships to activities are important for understanding the motivational source of one's activity (see also A. N. Leont'ev, 1978; Bratus' & Lishin, 1983; Kaptelin, 2005; Miettinen, 2005). For developing this approach, Leontiev distinguished three levels of human functioning or being in the world. Along biological existence, the idea of social and the idea of personal existence are required. In the former, motivation is produced by "the social way of living" and "being in harmony with the social groups and organizations one belongs to" (Leontiev, 2012, p. 14). Personal existence is a relation in which the person meets "the world at large" and each individual is to discover personally the possibility to relate to the world and control over one's life process and outcomes (p. 22). Leontiev located worldviews in the personal dimension of existence as personal meaning systems which have "an underlying meaning-based logic of their own" (Leontiev, 2007, p. 244). In his studies in the field of qualitative psychological assessment, Leontiev elaborated more concretely his approach to worldview and defined it as the person's picture of the world, which is a more or less coherent system of general understandings about how human beings, society, and the world at large exist

and function, and what is desirable or not (Leontiev, 2007, p. 245). These elements are beliefs that pertain to generalities rather than single objects or single subjects[2].

On the whole, a cultural-historical approach emphasises that the human mind and the world are not ontologically separated but form a unity of existence which is grounded both in the socio-cultural and the material world. Consequently, the seemingly individual views and actions remain inherently social and dialogical due to their reliance on other people and collective cultural achievements. To argue for this view and keep the focus on the motivational source of one's activity from a dialectical perspective Arievitch and Stetsenko (2014, p. 217) use the method of cultural mediation for tracing how it itself "emerges and develops in ontogeny from its early roots in infancy". By challenging 'the mental' as sets of semantic-referential meanings that affect activities "from outside as extraneous adds-ons" (p. 237) Arievitch and Stetsenko address the question of how signs get into individual's thought and what they do there (p. 222). Their discovery is the growing complexity of a developmental continuum of emerging mediational means from *operational meanings* to *object meanings* and finally to *verbal meanings* (pp. 235–237). They propose that this progression can be used to explain the transformation of external activities into sophisticated forms of acting, which are traditionally described as 'mental'. In the same way, as one sees in joint infant-adult practice which has a material and culturally mediated character, "any joint activity draws its participants together by creating a joint space – the space of human meanings" (p. 230; on collective or 'public' intentionality which is "intrinsically intertwined with intersubjectivity", see Duranti, 2015, p. 238; Tomasello, 2014).

As an approach to challenge the mental realm as independently existing subjective reality Arievitch and Stetsenko regard the above "integrative concept of meaningful activity" as promising for opening methodologically ways to see *what it is specifically* that is taken over by signs from the dynamics of joint activity (p. 223). Concerning worldviews, defined by Leontiev (2007) as *generalities*, the signs no longer have a direct relation to an object of activity or direct representational function but they rather can become and belong to a type of artifacts that color the way we see the actual

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[2] For illustrating this claim, Leontiev (2007, pp. 245–246) gives examples, such as a belief 'This minister is a liar' does not belong to a worldview concept, but 'Most ministers are liars' does belong; a belief that 'Music is what I love most' does not belong, but 'Every educated person loves music' does.

world. Wartofsky (1979) refers to these as *tertiary artifacts* in his three-level hierarchy of artifacts of cultural mediation. The third level is a class of artifacts "which can come to constitute a relatively autonomous world" and "can come to achieve a greater or lesser distance from the performance itself", in that it allows also for the investment of values and needs of a sort of which are related to the original activity (pp. 207–208). Although these artifacts are considered by Wartofsky as "the imaginative construction of 'off-line' worlds" he sees them at the same time derivative, having "a structural component in all this which derives from other (though no less social) needs which transcend the more immediate necessities of productive praxis" (p. 208).

In the next section we are asking, what could be the generalities and space of human meanings in professional work of education in the frame of the intergrative concept of meaningful activity.

3. Worldview in education

Research on professional activities share (albeit to varying degrees) the view that through their education and practice people become members of a professional community and bring professional resources to bear upon their tasks while finding themselves taking a stand and revealing what matters for them in their profession (Edwards, 2010; Hargreaves & Fullan, 2012). Applying practices of teaching, teachers build and contest "professional vision" which consists of "socially organised ways of seeing and understanding" their tasks that are accountable to the distinctive interests of the group they are belonging to (Goodwin, 1994, p. 606). In education, the vision extends to "the school ethos" which provides the frame or horizon within which what is good, or valuable, or what ought to be done, or oppose is resolved (Husu & Tirri, 2007). In the literature, institutionally relevant meanings of education and the societal role of schooling have been presented with the help of educational ideas by several authors. We now consider these ideas and take some examples which are meaningful in the original sense of educational activity and at the same time encompass historically changing and culturally modern modes of education.

According to Lamm (1976), school has been historically established to meet three needs which he refers to as *archetypes of education* (p. 116). In addition to serving as an agent of *socialisation* in modern times, the school is also expected to serve as an

agent of *acculturation* and *individuation*. Egan (2008, p. 9), drawing on Lamm's ideas, also adopted Bertrand Russell's "three big ideas […] about education". According to this view, current education involves three distinctive ideas, each of which leads toward a distinctive aim for schools. These are *socialisation*, the *academic ideal*, and the *idea of individual development*. In a discussion about what education is *for*, Biesta (2013) suggests a distinction between three functions of education, which are *qualification*, *socialisation*, and *subjectification*.

The above ideas can at least approximately be assigned to three existential dimensions in which the person meets the world (Leontiev, 2012; see also Kramer, 2018). They address generalised meanings of education driven from motives to act with others, in relationship to the world, and within developing the self. The purposes of education can roughly be mapped to these dimensions as shown in Table 1.

Table 1. Purposes of education

Existential dimension	Lamm (1976)	Egan (2008)	Biesta (2009)
others	socialisation	socialisation	socialisation
world	acculturation	academic ideal	qualification
self	individuation	individual development	subjectification

The generalised meanings of education look alike (Table 1). Although pointing out "possibilities for synergy", Biesta (2015, p. 10) remarks that the three domains of educational purpose seem to lead to different and potentially conflicting directions. This has been described also by Lamm (1976) as conflicting theories of instruction and by Egan (2008, pp. 9–37) as different and incompatible conceptual idea-lenses concerning education. Biesta (2013, p. 8) proposes that behind these conflicts is the reality in which education cannot be separate from other realms of life and, most of all, from the realm of political life. Therefore, the starting point is to understand "democratic education" which is "neither psychological nor moral, but rather thoroughly educational" because democracy "cannot be 'produced' educationally but can only be achieved politically."

The question of conflicting and contesting spaces of meaning in education leads us back to the task of the local teachers to pronounce and formulate their school's localised mission or policy. Core values or worldviews embedded in people's individual and organisational contexts are often not explicit, discussed, or understood, but rather are buried at the level of unstated assumptions (Fullan, 2016, p. 36) being conceived more in essential than existential terms. How then can a school's mission statement that documents the school's self-image be redefined so that it provides teachers with added "decisional capital" (Hargreaves & Fullan, 2012) not only for everyday practical situation in the school but for having capacity to make strong evaluations and interpretations on complex problems instantiated by policy discourse? In the next section, we apply a particular interview method in order to seek for means of approaching 'worldview' from a point of teachers' subjective realities.

4. An exploration with UMT interview method

The context of the exploration with the teachers' team was a "school-based development" (Postholm, 2015) which comprised school conferences that were either organised as dedicated *school development* conferences – school development being the only topic on the agenda – or as part of the usual school conferences. The latter are typically held on a monthly to bimonthly basis and are attended by the whole teacher team (N=14). The school-based development included nine conferences over a time span of one-and-a-half school years, and produced different kinds of data, such as conference notes, sketches, interviews, and a questionnaire (a translation of the 'basic psychological needs at work' scale[3]), along with present day and historical legal texts, and the existing school guidelines. The conferences were designed by utilising the ideas of formative methodology in the light of expansive learning theory (Engeström, 2015).

The exploration at hand comprised interviews with a special interview method (see below) and utilised the outcomes of these interviews as *mirror material* for the task of revising the school's local policy document. The exploration was elicited by data from prior narrative interviews and by experiences and observations on heterogeneity in viewpoints and assumptions of the teachers. The interviews took place in the sixth conference of the school-based development.

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[3] http://selfdeterminationtheory.org/basic-psychological-needs-scale/

4.1 Ultimate Meanings Technique (UMT) for approaching worldviews

Based on the considerations with respect to worldview, Leontiev (2007, p. 243) elaborated an interview method which aims to reconstruct by an indirect technique "the system of a person's beliefs about the goals and meanings of human life". UMT is a structured interview that can easily be taken down while conducting it. Starting with a simple and general everyday why-question, all answers to this initial question are collected. In order to be valid, they must be given in terms of "goals, reasons, meanings, and anticipated consequences but not in terms of causes" (p. 247). The interviewer writes down the answer(s) and then continues asking sequences of questions, always scrutinising and discussing the previously given answer. The interview continues until one reaches the 'ultimate explainable meaning', the *ultimate meaning category*, which might be tautological repetitions or references to the general order of human nature. In this manner, all answers of an interviewee are dealt with, allowing for the construction of *a meaning tree* of answers (see Fig. 1 for an example).

In the exploration at hand, the teachers interviewed each other in dyads and produced one or two interviews per dyad within the given time and took notes as instructed. These notes were transferred by the first author into an online mind mapping software (mindmeister.com) in order to visualise the outcomes as 'meaning trees', and to code the 'meaning categories' (any valid answer) according to the definitions given in the UMT instructions. The researcher suggested starting with one of the following questions: *Why do people read?*, *Why do people travel?*, or *Why do people do sports?*, but also allowed using other similar, general questions as starting points. While all other teacher dyads opted for one of these questions, one chose *Why do people lie?* as the initial question.[4]

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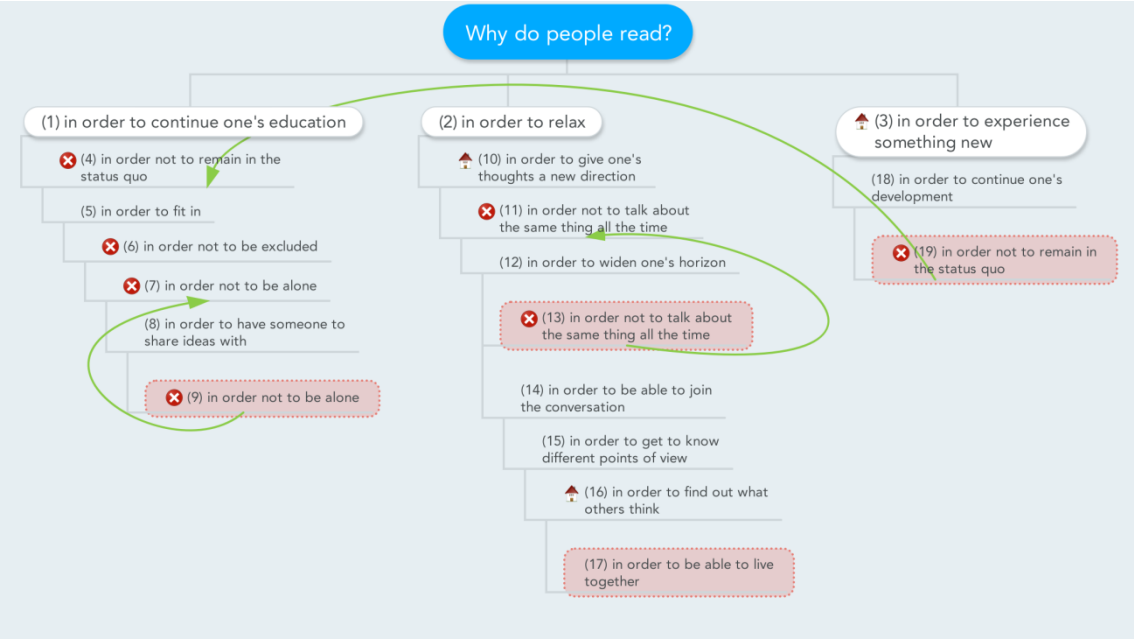
[4] Leontiev (2007, pp. 245–246) gives reasons for the general form of UMT questions as follows: "Worldview generalizations look like purely cognitive statements; however, when we ask a person about people at large and the world at large, we can expect that in these generalizations there will be a lot of subjective meanings emerging from the deep layers of personality dynamics. Transforming one's personal meanings into worldview generalizations, a person thus presents them as objective cognitions, or general truths." Although the focus of this study is on the worldview generalisations, it is important to acknowledge personality dynamics in the research object.

Fig. 1 A meaning tree based on a teacher's interview in which three answers were given to the initial question (translated from German)



The numbers present the order in which the answers were given and also indicate the amount of all meaning categories of the tree. Negative answers are marked with crosses, the houses mark meaning categories referring to subjective reality, and ultimate meaning categories are highlighted. The arrows mark repetitive answers.

Leontiev (2007, p. 249) proposes three types of analysis of the data gained through UMT interviews: structural, content, and phenomenological analysis.

(1) Structural analysis is concerned with the structure of a meaning tree. Its indices are interpreted in terms of *worldview maturity* (ibid.). Maturity is manifested by a more differentiated structure and higher-than-average chain length of the meaning tree. Structural quantitative indices encompass (a) the absolute number of ultimate categories N(U), (b) the absolute number of nodular categories N(N), (c) the coherence index N(U)/N(N), (d) the absolute number of all meaning categories N(M), (e) the number of initial questions used in the respective interview N(I), (f) the productivity index N(M)/N(I), and (g) the average chain length (Ln).

(2**)** Content analysis comprises the comparative analysis of frequencies of decentration, introspection, and negativity categories. In decentration, the agent is not identical with the participant (interviewee). In introspection, the meaning is described in terms of *subjective reality* (e.g., perceiving, feeling, knowing). The last category simply refers to any category including direct negation (see Leontiev, 2007, p. 250). These

analyses aim at revealing (a) one's connectedness with other people and society at large as opposed to feeling isolated and self-sufficient; (b) the pre-occupation with one's inner world at the expense of goal-directed activity; and (c) self-restriction, a defensive or homeostatic attitude (ibid.).

(3) In phenomenological analysis the meaning tree presents an important fragment of what the person takes for granted, natural or lawful. Leontiev does not suggest any special procedure here but points at the highly projective character of worldview generalisations, pertaining more to what "we are" than to what "things are", thus opening the door towards subjective meanings.

In his analyses which had the focus on personality and self-regulation dynamics, Leontiev (2007) put emphasis on structural aspects of worldview that allow for a comparative approach in studying different clinical and age groups. He also saw the possibility of appropriating the method "as a form of *positive intervention*, as a technique to improve awareness of one's own core worldview orientations" (p. 263, emphasis added). In the present study the focus is set differently, on generalisations as culturally mediating artefacts of a person's subjective reality that become utilised in the school-based development as an intervention to what persons say about the world outside.

4.2. Analyses of interviews

In all, the interviews resulted in 12 personal 'meaning trees'. In their analysis, phenomenological analysis yielded the most productive approach serving the interests in school-based development. However, some relevant findings of the structural and content analyses will also be presented here.

Structural analysis showed that the interviews were shorter than proposed by Leontiev (2007, p. 248). However, their purpose in our case was not to provide detailed structural worldview pictures of particular participants but to give an overview of worldviews of the teacher team as a whole. Also, given the time frame and other organisational circumstances of the school development conferences, the structural analysis did not provide an account of 'worldview maturity' of the participants. Otherwise, the interviews revealed a differentiated picture of the participants' worldview structures: On average, 18.25 meaning categories (units) were reported per

interview, with an average chain length of 4.56. The ratio of nodular (3.67) and ultimate (5.25) categories revealed a coherence index of 0.70. If nothing more, the analysis demonstrates that the interviews were taken seriously and that the participants revealed differentiated worldviews.

Content analysis revealed that the teachers hardly explicitly referred to distinctive agents other than themselves (average decentration index Dc=0.05). In fact, they generally did not refer to any specific agent but rather formulated their answers in an impersonal, general way ("in order to …"). Also, the average negativity index Ng=0.10 was very low. Only two participants answered more frequently in terms of negativity (one of them being presented in Fig. 1), which shows that the teachers to a very high degree don't define their worldview in terms of negativity. Introspection index – comparing the number of categories describing meaning in terms of subjective reality against the total number of meaning categories – was slightly higher (In=0.20). Unlike Leontiev's interpretation of those introspection indices revealing a pre-occupation with one's inner world at the expense of goal-directed activity, these categories may indicate, here, openness towards the interviewer (who was a teacher colleague and could be freely chosen).

For the phenomenological analysis, the focus was put on the ultimate meaning categories (N=59). These were allocated to existential dimensions. The idea behind such an allocation was to connect categories to the general meanings of education as lined out in Table 1. For instance, the ultimate meaning categories 'not to be alone' or 'to feel connectedness with others' were interpreted as orientation towards the *other*, the categories 'to meet ever-increasing demands' or 'not to stay on the status quo' were seen as related to the *world*, and categories like 'to lead one's life in the most meaningful way' or 'to stay oneself' were attributed to the *self*, as illustrated in Table 2.

Table 2. Examples for allocating ultimate meaning categories to existential dimensions.

others	the world	the self
not to be alone	to get to know new things	to stay oneself
to be able to live together	to meet ever-increasing demands	to come to terms with oneself
to be accepted	to conform with nature	to be in the centre

to feel connectedness	to understand everything	to lead one's life meaningfully

Of the 59 ultimate meaning categories, 17 (29%) displayed an orientation towards the other, 17 (29%) towards the world, and 25 (42%) towards the self. In five interviews (out of 12), the ultimate meaning categories were divided between all three existential dimensions while in the remaining seven interviews at least one existential dimension was missing. We can sum up the findings from the point of view of school-based development in the way that these made visible how the teachers presented individually diverse aspects of existential dimensions although all three dimensions were presented in the total of ultimate meanings. This outcome was used for triggering a dialogue on worldviews and the school's mission statement with the aim of reconceptualising the latter.

4.3. Using the interviews as 'first stimulus' for reflection

The frame of school-based development points to the importance that "the teachers both observe their own and each other's practice" (Postholm, 2015, p. 49). In accomplishing the UMT interviews, the teachers worked in pairs and facilitated each other in improving an awareness of their own worldview orientations. The interview partners were not strangers and interacted as equals. The researcher made the interviews, in the form of meaning trees, public and available for a joint discussion and reflection. In the frame of formative intervention, the interviews can be seen to play a role of mirror on worldviews, acting as first stimulus which addresses the task that needs to be solved (Vygotsky, 1978). In order to move from individual interviews to professionally shared meanings and work on articulating the school's policy, the facilitator of conferences delivered the interpretive frame of existential dimensions (Tables 1 and 2). These tables can be seen to function as second stimuli and sign-creating anchors and shared references for contextualising teachers' subjective generalities about the goals and meanings of human life into a joint discussion of what education is for (cf. R. Engeström, 2009). In successive conferences, the UMT findings were interpreted in light of the ongoing transformation of the school.

In opening up a dialogue with the help of UMT interviews, the first finding of the teachers was that the given local school policy instantiated a worldview that neglected the domain of individuation and focused mainly on the domains of qualification and socialisation. The teacher team decided to rebuild their school's mission statement on three core principles, reflecting *all* domains of education. This new understanding was articulated with the words: "*We learn together. We live relations. We educate personalities".* The reformulation made visible a new collective voice that was not present to that extent before, and that extends beyond the teachers' team, encompassing the whole school community. While the old policy document was impersonal, oftentimes relying on passive sentence structures, the new one actively promotes lived relations and learning communities, on what *we* do, or at least seek to do. The policy became regarded as means that builds on and grows out of relations, and offers an invitation to "explore the world, experience community, and develop the self", as the concluding statement of the revised school policy puts it.

Nevertheless, a wide-ranging discussion on the domains of education indicated contesting meanings and moves in perspectives among and between individual teachers. Some colleagues became curious and showed willingness to experiment and engage with educational ideas that belong to the individuation which had not caught much attention in teachers' former discussions. They focused on the meaning of 'the self' in a person's relation to the world, expressed by one colleague as "I have never looked at it like this before". Others were more reluctant, repeatedly stating that they didn't see any point in "reinventing the wheel". The domain of individuation gained special attention in the discussions, becoming a central aspect of the ongoing school reform.. In assimilating the information between the tables (second stimuli) and the interviews, the teachers entered and referred to the area of their own experiences as being a member of the professional community and interpreted these experiences for making sense of individuation – arguing not about his or her experiences but about the world outside a person. The same kind of communicative processes of trying to understand and assimilate into the existing set of experiences concerned also the notion of inclusive education. Because it was heralded as a new educational paradigm by school authorities, reflective discussions addressed questions such as what is actually new about it and to what respect it has already become a part of educational practice in the school. Some referred to personal experiences of successful inclusive education either

as teachers or as parents.

From the point of view of updating the local policy of the school, confusing sights and hesitations and conflicting views expressed by the teachers left *the meaning of change* still open and the team with the task of concretising the vague and partly conflicting ideas. In order to bring the overall principles to life the teacher team decided to continue the development in line with the lively debate on worldviews (Kramer, 2019). Experimenting with the UMT method was, in these terms, productive and facilitated teachers' talk about beliefs and values, which have been noticed to be lacking in teachers' discourse on educational change (Biesta et al., 2015). At the same time, this exploration draws attention to tensions inside professional vision. In the next section we discuss and summarise our findings from this perspective.

5. Discussion

The core of the present paper has been to understand teachers' beliefs and values as a component of motivational force of professional agency involving personal commitment and motive to be a responsive member of one's own community, a member who is bringing intellectual and experienced-based resources for thinking school change. This interest led us to question what constitutes the 'mental realm' of core values and how they, referring to subjective realities of a person's world construction, can be conceived of as collective and professionally shared. We approached this topic theoretically in the frame of a cultural-historical approach to mind in which we drew upon insights of "the integrative concept of meaningful activity". The concept points to the critical role of cultural mediation in overcoming the dichotomy between individual and social or collective planes of activity and guides to study the co-evolution of the motives of individuals and the objects of activities (Arievitch & Stetsenko, 2014). It claims that object meanings are based on prior achievements of joint activities and action and operational meanings enacted through them, and together they constitute a more advanced and complex form of cultural mediation, a set of semantic-referential meanings, integrated with human development and progression of object-oriented activity. To study worldviews in this framework, we considered them as culturally constructed means that do not emerge internally or have an ontology of "extraneous adds-ons" but "are *acted out* (performed) collaboratively in distributed,

materially embodied, and interactively enabled practical joint activities" within common settings of everyday routines (p. 231).

To approach concretely what it is specifically that is taken over by semantic-referential meanings and signs from the dynamics of joint activity in education we referred to Wartofsky's notion of "tertiary artifact" – a class of his three-level hierarchy of artifacts. These third level artifacts "can come to constitute a relatively autonomous world" and can have a greater or lesser distance from the object-oriented activity itself (Wartofsky, 1979, p. 209). They are, as Wartofsky suggests, "the imaginative constructions" of worlds having "a structural component" in all this which derives from "the more immediate necessities of productive praxis" (p. 208). A structural component of education that can be seen meaningful in the ontological sense of education is its *relationship* with a human person (an individual). A teacher cannot teach without anyone who is supposed to learn, though "even the most skilful teacher cannot *understand for* a student the material presented" (Vasilyuk, 1988, p. 15, original accentuation). We assume that the component lives through and across historical contexts of teachers' professional practice.

In the context of practice and its social world, teaching and learning have been viewed as an object-oriented activity which indicates a unity of an object of development of human consciousness and an epistemic object which has the form of learning material being studied and worked on in instructional settings in which learners become socially constructed as individual 'students' (e.g. Daniels, 2007; Davydov, 1999; Engeström, 2015; Hedegaard & Chaiklin, 2006). Epistemological practices related to an epistemic object have a long (Western) tradition of informing how things can or cannot be done for the best of a student. They have guided pedagogy to regulate an individual student's mental processes in ways that are appropriate for the sociocultural setting, giving priority to 'standard' truth-based knowledge and academic achievements in a small number of curriculum domains (particularly in language, science and mathematics), and they have also provided teachers with an understanding of how to assess individual students' performances of learning and what should be used as evidence of learning (e.g. Biesta, 2009; Sahlberg, 2010; Wertsch, 1991). Only quite recently, a new value of *diversity* has evolved in society and offered a historically new perspective to generalised meanings of education, especially focusing on 'individuation'. Recent pedagogical approaches have started to emphasise different individual ways of thinking and paths of learning and have included efforts to connect

learning across school and students' out-of-school contexts. Approaches have led to investigations of epistemological pluralism and heteroglossia in learning (Knight & Littleton, 2018; Rosenberg, Hammer & Phelan, 2006) and promoted educational equity and inclusiveness while having a concern for social justice and cultural sensitivity, particularly in education of non-dominant children (Gutiérrez, Morales & Martinez, 2009; Vianna & Stetsenko, 2011).

Nevertheless, Biesta (2009, p. 35) argues that we now live in an age in which discussions about education are dominated by measurement and comparisons of educational outcomes and that these measurements as such seem to direct much of educational policy. This measurement culture has had a profound impact on educational practice, from the highest levels of educational policy at national and supra-national level down to the practices of local schools and teachers. Also Gutiérrez (2008, p. 148) recalls that small gains in educational equity have been rolled back in implementing policies driven by high-stakes assessment. In the historically new context of globalisation, digitalisation, etc., alternative realities have given a priority to values which conflict with the interpreted meanings of individuation. These are changes that bring about the value of competition which is "ensured by employing management models from the business world, such as test-based accountability, merit-based pay and data-driven administration" (Sahlberg, 2010, p. 99). Based on her studies, Santoro (2011) points out a risk of "the *demoralisation* of teachers", which she – in contrast to burnout that is linked to teachers' personal resources – connects with the conflicting purposes and conditions of teaching that have rendered the moral rewards of teaching inaccessible.

For intepreting the outcomes of the worldview intervention of the teachers' team presented in the paper, in the context of conflicting generalised meanings of education and considering worldviews conceptually "imaginative constructions" (Wartofsky, 1979; on "conceptual idea-lenses", see also Egan, 2008), we examine them further in light of "the imaginative-discursive practice", proposed by Kagava and Moro (2009). Being influenced by Spinoza's ideas of politico-affective processes in human interaction they have found the ideas relevant in the transitive and affective professional learning which is dealing with transferring significances. The view indicates that imaginative-discursive practice derives from the existential and epistemological constraints of human beings and is driven by the inadequencies of human knowledge,

or, related to our study, by deliberate processes of expansive learning in the face of school change. Imagination is seen as a way in which humans perceive and form universal notions "from singular things" (p. 184). Referring to Spinoza (1994, p. 48) Kagava and Moro (p. 184) argue that imagination partly emerges from "signs", or "from the fact that, having heard and read certain words, we recollect things, and form certain ideas of them, like those through which we imagine the things". While participating in talking we reconstruct and make sense of our experiences through *distantiation* in which a person is searching for and detecting the resembles between the present situations and the past (future) situations, separating them, and reuniting them in imaginative discourse (on 'personal sense', see R. Engeström, 2014). Although the sign is constituted through practice that makes the world 'visible' in focusing and highlighting some aspects of everyday life, humans construct the reality to which they refer with words, and thus the picture is not 'value-neutral' and 'objective truth' or an 'exterior world' independent of people's practice with words in which the relation to direct object-oriented (productive) practice is "so weakened, that the *formal* structures of the presentation are taken in their own right as primary" (Wartofsky, 1979, p. 208, original accentuation).

The worldview intervention of the teachers' team in the school-based development included discursive resources that made a particular event or a phenomenon, such as individuation, 'visible'. While taking a perspective of the imaginative-discursive practice to the teachers' discourse, we can observe that its dynamic showed to allow and appreciate the social meaning of individuation as used in experiences (of the teachers) but *the discourse itself* turned out to be a kind of "claims-making" for and between differently constructed realities and showed to obscure and leave open the professional future-oriented discussion about directions of or what can be desirable in education. The dynamic of discursive practice can be seen even more complex due to a "composite" question of what constitutes good education (Biesta, 2009). When different rationales meet in the question, we need not only to acknowledge that there are "the different potential purposes of education" (see Table 1) but also that they are overlapping and conditioning each other. The national reform had put the teachers' local team in front of conflicting meanings of change in which transferring significances indicated a need to go beyond the 'formal' structures of representations. Thus, our investigation addresses critical reflection on worldviews (as representations) that does not mean to give up what has been created by the profession. Instead, it

recognises a significance of a joint imaginative-discursive practice on worldviews considering them as means or perceptual modes in the imaginative praxis which is connected to the social and cognitive history of human praxis. In this context, beliefs, ideologies, value systems – "in short of the social human world in which perception has its genesis, and in which it functions" (Wartofsky, 1979, pp. 209–210) – become an object of imaginative-discursive practice for reflecting what matters in school.

In all, instead of being fixed personal values and beliefs which are not meant to be reflected, worldviews can be seen as tertiary artefacts and means (or perceptual modes) in the imaginative praxis to color and change our perception of the 'actual' world, as envisioning possibilities in it not presently recognised (Wartofsky, 1979, p. 209; see also Gutiérrez, 2016). Although 'mental', imaginative praxis takes place in the 'actual' world it is not bound to it. We argue for, what is needed professionally is, referencing Stillman and Anderson (2015, p. 741–742), "to help transform implicit communities – defined by co-membership in a shared workforce, in a shared historical moment, pressured by accountability policy – into imagined communities, within which they are bound together powerfully and communally by their equity-focused adaptive use of restrictive curricula, and from which they can mobilize for change". The professional challenge is in creating a historically responsive space of core meanings and, thus, new visions in strengthening professional power of educators' taking agency of change that is driven by professional capacity interlinked with a desire to interpret an increasingly complex object of educational practice.

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Why do people read?

- (1) in order to continue one's education
  - (4) in order not to remain in the status quo
    - (5) in order to fit in
      - (6) in order not to be excluded
        - (7) in order not to be alone
          - (8) in order to have someone to share ideas with
            - (9) in order not to be alone
- (2) in order to relax
  - (10) in order to give one's thoughts a new direction
    - (11) in order not to talk about the same thing all the time
      - (12) in order to widen one's horizon
        - (13) in order not to talk about the same thing all the time
          - (14) in order to be able to join the conversation
            - (15) in order to get to know different points of view
              - (16) in order to find out what others think
                - (17) in order to be able to live together
- (3) in order to experience something new
  - (18) in order to continue one's development
    - (19) in order not to remain in the status quo

Table 1. Purposes of education

Existential dimension	Lamm (1976)	Egan (2008)	Biesta (2009)
others	socialisation	socialisation	socialisation
world	acculturation	academic ideal	qualification
self	individuation	individual development	subjectification

Table 2. Examples for allocating ultimate meaning categories to existential dimensions.

others	the world	the self
not to be alone	to get to know new things	to stay oneself
to be able to live together	to meet ever-increasing demands	to come to terms with oneself
to be accepted	to conform with nature	to be in the centre
to feel connectedness	to understand everything	to lead one's life meaningfully