Critical thinking in social work education. A case study of knowledge practices in students' reflective writings using semantic gravity profiling

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ABSTRACT

The study explores how critical thinking can be practised and taught in the training of social work students. It investigates the nature and possible developments of critical thinking in an educational environment, asking which learning practices can be described as 'critical thinking' since this is not well defined or understood in an academic context or, particularly, in social work education. The approach, based on Legitimation Code Theory, allowed the creation of pedagogic interventions suitable for teaching skills and practices which clearly demonstrate what constitute examples of critical thinking. Students' reflective writing showed a capability for recontextualising, generalising and assessing the meanings connected to the incident through weakening semantic gravity. High-achieving students produced 'semantic waves' by comparing different interpretations of knowledge, based on incident analysis, and successfully transforming these into a new form of individually 'invented' knowledge. Additionally, the study proved that mastering 'semantic gravity', the ability to manage knowledge which is to be decontextualised, transferred and recontextualised, may improve critical thinking skills. The analysis demonstrates how movements in semantic gravity in students' writing assignments provide conditions for cumulative knowledge building that could be used in the future implementation of 'semantic gravity' in social work curricula.

Introduction

This study explores how critical thinking can be practised and taught in the training of social workers while investigating the nature and possible developments of critical thinking in the learning process. The main question that arises is which of the knowledge practices might be described as 'critical thinking' and how they can be traced in students' activities since this is not clearly defined and understood in the context of social work education (Samson, 2019; Santos Meneses, 2020). The research findings presented here result from the premise that critical thinking can be expressed and analysed drawing on the sociological framework of Legitimation Code Theory.

Firstly, I will reflect on the importance of critical thinking in higher education with an emphasis on the training of social workers at both undergraduate and postgraduate level. Secondly, I shall argue the need for the study of critical thinking as a specific type of knowledge practice generated by underlying principles that can be revealed using a conceptual framework: Legitimation Code Theory. Critical thinking as an example of knowledge practice reflects the way people create, develop, transform, apply and use knowledge in different contexts. In this case, critical thinking as a knowledge practice refers to the writing assignments of social work students. A basic toolkit connected to Legitimation Code Theory will be introduced, namely, Semantic Gravity which describes the 'context-dependency' of the meaning. Thirdly, I will introduce a research project devoted to the analysis of critical thinking in the reflective writing of those studying social work, thereby illustrating the forms of knowledge practices connected to critical thinking display in an educational context. The practice of critical thinking can, to a certain extent, be tracked and analysed through the conceptual framework constituting Legitimation Code Theory, which is a knowledge building theory bringing together theory and data.

The present study seeks to establish how social work students use knowledge in their writing assignments and how the body of knowledge connected to social work is used in the specific context of social work education. The application of Legitimation Code Theory's 'languages of enactment' can be employed to make explicit the principles required to improve critical thinking and translate these new findings into theory, which can then be used to show how to improve social work education and education orientated towards critical and radical thinking (Howard & Maton, 2011).

Critical thinking in social work education

Critical thinking, and the ability to use it, is necessary so as to engage in a modern democratic state. Not only does it provide the means to overcome gaps in accumulated knowledge but it also empowers the individual to participate and contribute to society. Higher education is probably one of the most important fields where the question of critical thinking arises; however, some suggest that there needs to be a radical overhaul of teaching models so as to meet contemporary global and sociocultural demands (Santos Meneses, 2020). Consequently, many universities are now focusing on critical thinking as the goal of teaching programmes for particular courses (Brenner, 2016). In the light of clear evidence which shows noticeable improvements in critical thinking among students, so indicating its importance as a basic skill for future employment, Green (2015) advocates stronger support for critical thinking in lifelong learning and for the metacognitive skills that allow critical thinking. International organisations of social workers are, increasingly, placing significant emphasis on critical thinking in the education of social workers.

The 'Global standards' document adopted by the International Federation of Social Workers also highlights the crucial role of critical thinking as an essential part of skills-based work in social work curricula, methodology and professional practice (International Federation of Social Workers, 2012). Fenton is convinced that critical thinking is 'crucially important, because students need to be equipped to understand and think through any situation and its political, hegemonic context, in order to choose the "practices and norms of the profession", that is, to do proper social work' (Fenton, 2019, p. 9). Critical thinking in social work links individuals with socio-structural determinants which can lead to oppression, injustice and discrimination. Through understanding the

role of critical thinking here, social workers are able to assess its impact on human existence. As practitioners in a field involving self-evaluation and assessment, social workers are supposed to review their own and the client's values critically from the perspective and experience of both parties. Therefore, critical thinking is seen as an important part of intervention in social work. According to Mathias (2015), there are two common conceptual frames of critical thinking in social work. The first views critical thinking as practical reasoning leading to informed decision-making, whereas the second frame connects critical thinking to complex situations to be solved following the core values in social work. Moreover, this epistemological divide has a significant impact on social work practice. Using the second frame, critical thinking can be described as 'criticality' (Barnett, 2015), in which critical thinking is able to bind actions with values, and functions as a 'critique-in-action' perspective oriented towards collective reconstruction of the world.

Morley et al. (2020) suggest that the current context demands that social work practitioners think critically and endeavour to link theory with practice and, therefore, advocate the use of critical pedagogies in social work. The problem identified by the authors lies in the training programme for social workers that consigns critical thinking and ethical responses to social problems. Santos Meneses (2020) distinguishes between skills-based critical thinking perspectives found among education stakeholders and the forms of critical thinking focusing on civic, cultural, and ethical dimensions that entail social awareness, value perspective, cultural sensitivity, etc. The domination of the first perspective may also result in difficulties when responding to particular cases whereas critical thinking reflecting a civic, ethical and cultural dimension can 'contribute to a kind of thinking that is deeply conscious of reality and takes informed responsible actions in the fight for breaking structures of oppression, seeking the public good instead of personal or selfish interests' (Santos Meneses, 2020, p. 9).

Regulations governing teaching have tightened along with the implementation of disciplinary measures in direct practice and values (Carey, 2019). Despite the bottom-up adjustment processes applied by social workers, their working practices were and are determined by neoliberal assumptions (Albuquerque, 2018; Schram & Silverman, 2012; Spolander et al., 2014). As Harlow et al. point out 'By means of their scholarship, social work academics and practitioners have attempted to resist aspects of managerialism and neoliberalism that appear to jeopardise valued principles and practices associated with the welfare state, as well as the practice and "profession" of social work' (2013, p. 544). One of the main concerns is privatisation, neoliberalisation and marketisation that have a great impact on social work almost all over the world (Lauri, 2019; Spolander et al., 2014). Critical reflection is also needed for the identification of principles and values underlying those new trends and their role and application in social work. Critical thinking is inevitable in professional practice that is often related to decision-making, assessment, and risk that demands clear and informed decisions.

However, from the standpoint of published research with its myriad of definitions and meanings associated with critical thinking, it is unclear what the perceived attitude is (Barnett, 20,015; Ku, 2009; Samson, 2019). Barnet (2015) states that definitions of critical thinking can be distinguished by two axes of critical activity: 1) levels of criticality (from operational skills to transformation critiques) and 2) scope comprising domains of formal knowledge, the self and the world. In this respect, these broad terms can be

clarified with the following 'critical' research outcomes surmised as being: critical action, critical reason and critical self-reflection. On the other hand, critical thinking in the context of social work is defined as the 'process of continuously reflecting upon and examining how our own biases, assumptions and cultural worldviews affect the ways we perceive differences and power dynamics' (Pitner & Sakamoto, 2005, p. 2). According to Barnet (2015), higher education fails in its responsibilities to the contemporary world by not integrating all the domains of critical thinking. It refers, in particular, to the caring professions and social work training courses in which the skills promoting critical thinking should be applied as social workers are often confronted with challenging situations where they have to make and explain their independent decisions in a volatile environment (Milner & Wolfer, 2014).

One problem is the dearth of proper assessment tools measuring students' activities connected to critical thinking. Without valid assessment frames, it is hard to effectively evaluate programmes enhancing critical thinking (Ennis, 2003). There are many forms of critical thinking assessment in the educational context Ku (2009) argues but, in order to construct the appropriate assessment tools for critical thinking, teachers need to apply multiple measure and assessment methods including self-constructed answers and assignments facilitating the practical use of thinking in a specific context.

Samson (2019) notes that the operationalisation of critical thinking is important in social work education, though it is unclear how this concept is defined and understood in the educational environment. She finds that social work education is most successful when teaching creates interactive space in which critical thinking is connected to practice so enabling the transfer of knowledge to different contexts. Another perceived necessity is to integrate classroom and field learning that strengthens critical thinking in the context of students' work placements and service-learning. The challenge that critical thinking brings to the educational context is the consequence of its complexity, multidimensionality, holistic character that is informed by epistemology, pedagogy, critical perspective and shared understanding (Ku, 2009; Samson, 2019).

Theoretical framework and research methods

The research discussed in this paper is based on the assumption that some knowledge practices reflect critical thinking which make it possible to explore different cognitive processes of knowing. In Legitimation Code Theory, knowledge practices are analysed as ways that internalise claims made by actors who legitimise what they are doing and therefore these practices can be understood as 'languages of legitimisation' (Maton, 2014). As the Legitimation Code Theory perspective on knowledge practices assumes a structured and legitimate form, its structuring significance makes it feasible to create the opportunity for moving beyond mere descriptions of knowledge practices in order to analyse the principles that underly them. As an explanatory framework, Legitimation Code Theory is based on using the social realism paradigm and coalition of approaches frameworks promoted by Pierre Bourdieu and Basil Bernstein. As a means of generating consequences and ways to analyse them, Legitimation Code Theory integrates and extends perspectives revealing knowledge to be socially constructed and real (Georgiou et al., 2014). Legitimation Code Theory is an effective 'toolkit' capable of capturing the organising principles of knowledge practice and making observable *who* or *what* is capable of legitimising practices and *how* (Maton et al., 2016). It also offers tools capable of cross-examining forms of knowledge and knowing for social workers and students,

and therefore 1) facilitates the application of knowledge in practice, and 2) interprets practical action through a theoretical lens. Previous studies engaging Legitimation Code Theory showed that cumulative learning takes place when students are exposed to context-dependent and context-independent knowledge (Georgiou et al., 2014; Martin et al., 2010).

In this study, the main focus on an area of Semantic Dimension called 'semantic gravity' which introduces the distinction between context-dependence and complexity and is often referred to in Legitimation Code Theory to create a Semantics plan of semantic gravity using a Cartesian plan and to express categories of knowledge which can be displayed in a graph form. Moreover, the 'translation device' was designed so as to create a scale for representing semantic gravity which has a continuous property and can be differentiated at unlimited levels depending on the nature of a problem and its relation to the context. Semantic gravity indicates the degree to which meaning connects to the social or symbolic context of acquisition or use. It can be relatively stronger (+) or weaker (–) 'with infinite capacity for gradation' (Maton, 2014). The stronger the semantic gravity (SG+), the more meaning is reliant on its context; the weaker the semantic gravity (SG–), the less meaning is dependent on its context. In this paper, meanings relying on the context (within the case) were presented as mere descriptions of incidents, whereas meanings less dependent on the context were closer to theoretical and abstract knowledge (beyond the case). It is a form of 'semantic waving' found widely in social work practice that embeds concrete and abstract dimensions, individual behaviour within contextual restraints and contextual rationality—defined as a contextual view of reasoning—into daily practices (Avby, 2014). It involves learning processes that grasp concrete experience and translate it through reflexive observation into generated abstract ideas and vice versa. This learning style is reported as typical for social work careers (Massey et al., 2011).

Semantic gravity was split into four strengths, labelled as SG++, SG+, SG-, SG—from strongest to weakest level. SG++ (the strongest) is represented in real-world examples and descriptions of specific situations. Strong SG+ characterises specific practice situations labelled as patterns, comparisons or incidents that have order or meaning. SG- (weak) reflects assessment, generalisations and identifications of different points of view, concepts, and theories in specific situations. Weakest semantic gravity (SG—) is shown in abstract, conceptual and theoretical knowledge without reference to a particular situation. When including time in terms of incident development and how this manifests in reflective writing, it turns into a 'semantic gravity profile'. Therefore, in students' writing, 'the move' from abstract and generalised ideas towards concrete and particular cases is characterised as strengthening semantic gravity, whereas the opposite 'move' is associated with weakening semantic gravity. In order to analyse changes of semantic gravity in an incident description, one can identify the relative context-dependence of meanings (Maton 2013; Maton, 2014). The profiles identified in research using Legitimation Code Theory are 'high flatline', relatively context-independent meanings represented by the line close to SG—in Figure 1; 'low flatline', relatively context-dependent meanings represented by the line close to SG++ and, lastly, a 'gravity wave' of movement between stronger and weaker semantic gravity, also visible in Figure 1. Profiles also demonstrate various ranges between stronger and weaker strength in semantic gravity.
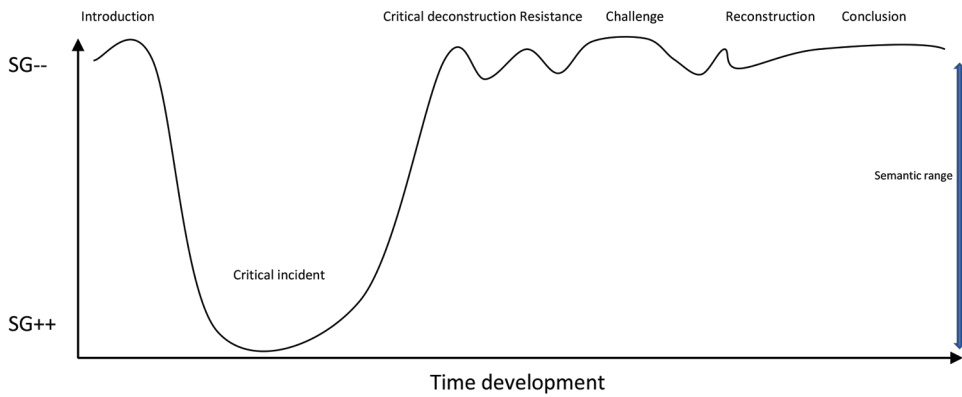
Figure 1. Illustrative semantic gravity profile of a high scoring critical reflection essay.

The 'translation device' below was designed to identify semantic gravity strength in students' reflective writing, its scale reflecting the degree of abstraction, conceptualisations, and context-dependency connected to real situations. In Legitimation Code Theory jargon, the description capable of identifying semantic gravity, 'external language of description', allows 'translations' between concepts and empirical data. In this example, it explains what is meant by semantic gravity and how its relative strength is defined in the data (Table 1).

Table 1. Description of coding—an external language of description for semantic gravity in students' writings.

Semantic gravity	Description of coded content	Examples of students writings
Weaker (moves beyond the case)	Abstract, theoretical and conceptual knowledge. The student describes action, idea, theory or law in an abstract way without relating to the context or practice	'It is not possible for social workers to be neutral and not be a part of existing power relations and inequalities that occur in the context of institutional practices [in the field of social work]'
	Generalisation or identification of patterns, concepts, dilemmas ideas, theories in a specific practice situation. The student describes the situation, refers to ideas, processes, social relations and uses knowledge to assess and understand the situation	She cannot find the way out as institutions are forcing her to behave in a specific manner, operating in an implicit manner. And there is no dialogue or support from higher institutions. Nobody is dealing with mistakes made by social workers who explain the whole situation in terms of antisocial behaviour'
Stronger (moves within the case)	Presentation, description of specific experience and situations. The student is describing her experience in concrete ways.	'When she showed up she started to yell. Then she started to threaten to hurt one of us and make us lose our jobs. And then she left.'

The empirical form of semantic gravity is closely connected to the concept, idea or theory that was enacted for that practice. It is expressed in context-dependent meanings that create a semantic range between abstract ideas and context-dependent incidents and examples. Semantic waves are the basis for cumulative development

through the movement of contextualisation and de-contextualisation of knowledge (Maton, 2014), thereby linking knowledge to practice. This study explores semantic gravity levels and ranges found in students' work in order to investigate critical thinking for knowledge practice, its characteristics in the field of social work and its evidence in students' assignments.

The focus of the research in this paper is into social work education in Poland where the subject is approached as an interdisciplinary course with social pedagogy and the theoretical teaching underpinning social work practice. Though there is significant influence from other disciplines such as psychology and sociology along with international perspectives, social pedagogy remains the theoretical core of what the Polish academic system accepts as the field of social work study (Kantowicz & Wilińska, 2009). Granosik (2016) concludes that there is a notable lack of theoretical inspiration in the field in Poland from which to base a valid critical analysis of the academic teaching of critical thinking for professional practice social work. Therefore, the course prepared by the author for social work students is also supposed to address this theoretical void with specific reference to its approach to human rights.

The qualitative study was written as a response to this need based on 22 'critical reflection' essays written by final year postgraduate students in social work who were part of the course *Human Rights and Social Justice in social work*. The course was based on the human rights' approach to social work, aimed at raising critical awareness of this area and enhancing reflective and critical practice habits by developing critical thinking strategies. Students were tasked with commenting on 'critical incidents' using critical reflection to create new professional understanding based on critical analysis of incidents during their work placement training or professional practice as social workers. Social work as a profession has always been immersed in values. Samson (2019) argues that in the context of successful practice based on professional judgement, 'Awareness of one's own social location and how this influences and impacts work with those served is an essential component of practice' (p. 14). This approach was based on the notion that understanding one's own assumptions about social work practice through critical reflection can be invaluable to practitioners in fostering new approaches to social justice and human rights and adopting these into everyday practice.

For the assignment, a model of critical deconstruction and reconstruction was adapted from Fook (2002) who states that the model of critical reflection should consist of at least four stages:

- critical deconstruction identifying contradictions, different views and possible interpretations of an analysed phenomenon;
- resistance stance that refuses to accept or participate in dominant discourses that disempower people or make a certain situation hopeless;
- challenge as a tendency for searching, labelling of both the presence and function of discourses in all forms: obscure, implicit or glossed over;
- restructuring aimed at formulating new discourses and creating new structures.

Students were asked to prepare 'critical reflection' essays based on Fook's model in which they were required to identify a 'critical incident' encountered during their work

placement training or professional practice in order to deconstruct the incident. The aim was to demonstrate (from the student perspective) and identify (from the teacher perspective) critical thinking. Consequently, the 'critical incident' was analysed using ideas and theories presented inter alia during the course. The essay's framework consisted of seven parts: introduction, critical incident (narration from the field or work placement of the incident being analysed), critical deconstruction (identification of different perspectives, paradoxes, and understanding), resistance (finding ways to oppose the oppression, power relations and discourses), challenge (identification of discourses, power relations, structure of oppression and description of their role in the 'critical incident'), reconstruction (identification of possible inputs from the analysis of the 'critical incident'—future lessons for practice and creating new perspectives, discourse, knowledge) and a conclusion (emphasis on critical thinking in changing one's perspective in social work practice).

The main research aim was to analyse the organising principles underlying practices aimed at harnessing knowledge using Legitimation Code Theory as a theoretical framework and based on students' reflective writing assignments. One of the dimensions of Legitimation Code Theory engaged in the research was semantics since it presents tools for distinguishing between context-dependent and context-independent practices. The approach has been successfully used in both the analysis of educational practices (Maton, 2014) and in the broad field of education including CT (Brooke, 2017, 2019; Szenes et al., 2015). In the process, specific research questions were established about students' reflective writing: What forms of expression does critical thinking take in learning practice? What is the education evidence for critical thinking capacity? What are the attributes of knowledge practices associated with critical thinking? Moreover, students were fully informed of the use of their assignment as a research resource and asked to give informed consent for this purpose. Since the main concern was to protect any sensitive data pertaining to those described in the essays, students were asked to anonymise any data that could identify a place, or institution. The research process was conducted following the Code of Ethics for Researchers of the Polish Academy of Science.

Critical perspective in 'critical reflection' essays in a social work course

The 'critical reflection' essays were analysed and annotated in accordance with the four strengths used in the semantic gravity coding framework. Every range was a description of the context-dependency level of the meaning and was graphically represented by the semantic gravity strengths assigned to the relevant part of the text. Results indicate that the recurrent pattern revealed in analysed texts was a series of 'gravity waves' represented by a move from stronger to weaker semantic gravity and vice versa. This is typical for cumulative learning as it changes from recurrent movement in specific situations ('critical incident') through generalisations, interpretations and pattern identification to abstract concepts and ideas. This form of movement is described by Maton (2013) as 'semantic waving' and is the main characteristic of critical reflection (Brooke, 2019; Szenes et al., 2015).

The figure shows recurrent movements as a series of gravity waves that represent the shift from particular (critical incident) and more generalised, abstract concepts. In between are comparisons, pattern identification, judgments and evaluations. Results

confirm that essays which achieved shifts in semantic gravity were those which showed meanings of lesser and greater context dependency: from empirical examples to academic knowledge applied to real-life situations. In terms of Legitimation Code Theory, they show 'mastery of semantic gravity' and the ability to create 'semantic waves' that characterise the development of cumulative knowledge. Other studies confirmed that the interplay between levels of abstractions was the feature of high scoring writing assignments by university students in different subjects (Brooke, 2017, 2019; Szenes et al., 2015).

The analysis focused on the reconstruction of semantic profiles using a Legitimation Code Theory device which enabled an exploration of the nature of knowledge practices undertaken by social work students. Most studies in social work education focus on either a participant's (both students and the faculty) perception of critical thinking (Samson, 2019; Sicora, 2019) or conclude that identification of critical thinking in students' assignments is highly problematic (Heron, 2007). They define critical thinking in terms of 'knowing practices' located in the minds of knowers, whereas what should be analysed are knowledge practices that delve deeply into knowledge organisation itself. Legitimation Code Theory enables such analysis beyond the surface of educational practices thereby capturing the organising principles underlying knowledge practices connected to critical thinking. It was easy to discern, especially in high scoring writings, different patterns of semantic gravity within parts of the text and when used for various purposes. Differences between high and low scoring work were reflected in semantic gravity profiles. Low achieving essays were characterised by omnipresent descriptions of incidents with rare references to academic knowledge, pattern identification, general-isations or assessment. In terms of Legitimation Code Theory, they showed 'segmented learning' instead of 'cumulative knowledge' acquisition in a learning process (Brooke, 2019; Martin et al., 2010; Maton, 2014). These can be described as disconnected from transformative learning and with very few connections between incident description and generalised ideas. This movement can be illustrated by 'up escalators' that show a rapid shift from stronger to weaker semantic gravity reflecting narration based on the practical description that switches to the short general principle (Figure 2). It could be illustrated by a series of movements from a long-lasting strong to a short and weaker semantic
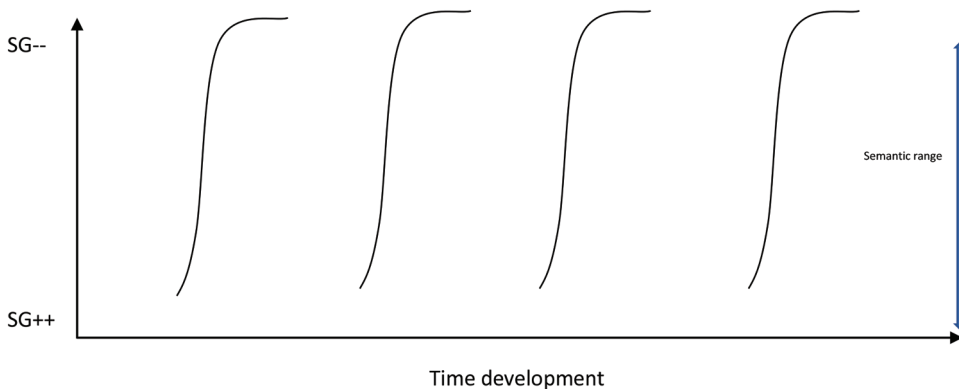

Figure 2. Illustrative semantic gravity profile of 'up escalators'.

gravity only slightly connected to the description. Often the following description has little connection to previous ideas or concepts.

The following remarks apply to high achieving essays. Introductory parts were almost always characterised by weak semantic gravity as they often began with general terms of critical reflection and its role in social work practice. They also contain remarks on a social worker's role, examining how this relates to a wider societal context as shown in the following statement:

> For every social worker critical incident can have a different meaning because we differ from each other. Our value systems and moral principles are an important part of social workers' practice.

The introduction is often context-independent characterised by low semantic gravity with some incidental remarks on experience, i.e. a student's individual work placement participation or previous work experience. Frequently, it is a narration on the duties and obligations of social workers in practice.

In the following parts, according to Fook's model, students describe the notion of 'critical incident' as that characterised by strong semantic gravity and context-dependency. Students provide a thorough account of their personal experience. These are the most contextualised parts of their essays. For example, A student recalls a situation in which a woman whose children were put in foster care displays signs of aggressive behaviour.

> When she showed up she started to yell. Then she started to threaten to hurt one of us and make us lose our jobs. And then she left.

These present relatively strong semantic gravity because this part is focused on real-life and personal experience. This grounds the essay in 'reality' and justifies further explanations, generalisations and dilemmas. All the abstract ideas and meanings are rooted in this empirical reality narrative that is continued through this stage. From this point, the gravity flatline starts to fluctuate and lose context dependency as students introduce assessments, dilemmas, different points of view in the critical deconstruction part of the essay. In the following, a student reflects on the ambivalence of her role in practice as exemplified in this real-life situation:

> As a social worker working with a family I find myself in an ambivalent situation—I am sent to the family to help and support, but in this very situation, when strong emotions took over, I was the only representative of authority to whom she could make a request.

This approach refers to the notion that uncovering one's own assumptions about social work practice through critical reflection is considered a highly valued skill for practitioners as part of fostering social justice and human rights in everyday practice. Often, critical deconstruction reduces context dependency and weakens semantic gravity, producing a new wave that implements theory such as power, gender, dependency or addiction as in this example:

> From the point of view of a social worker, violent behaviour is the consequence of arising conflicts. Working with difficult clients such as alcoholics you must have a wide theoretical perspective on addiction because a client struggles with addiction (disturbance of social functioning), family bond collapse (disturbance of a father's and husband's role),

unemployment (being financially dependent and without a sense of agency) or disability that limits his options (…). The disorder may alienate a person.

These examples show slight movements in the strengthening of semantic gravity when, and by, relating context-independent concepts to the specific reality of critical incident. The student follows by unpacking her concepts and understanding the client's situation by going beyond the context through complex interpretations, referring to more generalised issues such as feelings, needs, expectations, addiction or power relations. It seems that to disguise the ways in which structures of oppression work one needs to engage understanding to interpret the real situation and turn general ideas into practical issues and technical language of social work, i.e. 'the contract', 'assistance'. All this causes a series of shifts in semantic gravity.

Conversely, resistance is focused on the recognition of the number of possible opposing power relations which we are part of. Students often try to justify their involvement in the situation connected to 'critical incident' or deny the possibility of opposing power relations. The following illustrates how resistance turns into identifying the component parts of the client's oppression:

> What resonates here is a sense of superiority from social workers and the assumption that they know better and she needs to obey, which irritated the client and escalated discord. Moreover, probation officers were also blaming her and casting off their burden on social workers.

In the Challenge part, students recognise and identify power relations and structures of oppression that lead to weakening semantic gravity and another series of shifts indicating the ability to bind abstract knowledge with practical examples. The following example is one of rather low semantic gravity:

> The real power belongs to the internal hierarchy in the Social Care Centre, just like in other state institutions. Social workers make choices above the law when individual benefit prevails i.e. their secure job. (…) There was also a manager who abused his power to make an arbitrary call without consultation with the client, social worker or family assistant.

Reconstructions were focused on future lessons for practice and new perspectives, discourses, and knowledge emerging from 'critical reflection' and these turned out to be particularly demanding from the students' perspective. They were based on generalisations, assessments and critical analysis of the social systems and practices undermining clients. In the following example, a student opts to disguise the numerous levels of structures of oppression characterised by weak semantic gravity:

> After analysis, I can see that the client often falls into a system that he cannot understand (starting from the language we use, through provisions that describe what and how he can do it). As a helper, you need to remember to be the 'translator'—without knowing 'the rules', clients are not able to empower themselves and be independent. Ignorance often leads to resignation from the process or giving back the responsibility to someone else.

The student goes beyond the context of the incident and shows an excellent capacity to recontextualise, generalise, assess the meanings connected to the incident through weakening semantic gravity, and finding indications for future practice. Throughout these essays, high-achieving students produce 'semantic waving' through 'semantic waves' by comparing different pieces of knowledge based on the incident analysis and

thus transforms them into a new individually 'invented' form. The research confirms previous studies highlighting the importance of critical thinking in social work practice not only because it gives a foundation for decision-making (Samson, 2019) and allows its ethical practice (Santos Meneses, 2020), but also helps to deal with complex problems that do not have one solution (Milner & Wolfer, 2014).

Discussion and conclusion

This research sought to analyse the organising principles underlying knowledge practices using Legitimation Code Theory, particularly semantic gravity, as a theoretical framework based on students' reflective writing assignments. It also answered research questions aimed at identifying forms of expression, as well as evidence for, and attributes of, knowledge practices associated with critical thinking in the context of 'critical reflection' essays of social work students. It demonstrates that movements in semantic gravity provide settings for cumulative knowledge building and learning. These movements reflect conditions in the contextualisation and decontextualisation of knowledge. Knowledge practices connected to semantic gravity are significant for critical thinking and cumulative knowledge-building in students' reflective writing assignments. High-achieving essays were observed to demonstrate a wide range of semantic gravity and 'gravity waves', moves characterised by the interplay between different levels of abstraction. 'Waving' with respect to semantic gravity is probably a generic (not specific or local) attribute of knowledge practices connected to critical thinking. It is probably not associated with the field of social work knowledge or education. In contrast, low-achieving essays are characterised by steep and short gradients of semantic gravity, lacking the connection between different levels of knowledge, both concrete and abstract, and descriptions and generalisations.

Researching critical thinking using the analytical tool provided by Legitimation Code Theory is crucial in the context of social work studies and other fields of social science insights into knowledge practices which, together, are some of the most important factors in changing the social status quo. As was shown in previous studies, the use of Legitimation Code Theory aspects such as semantic gravity in learning can contribute to the enhancement of critical thinking in higher education (Brooke, 2017, 2019; Szenes et al., 2015). One of the main problems faced by students studying social work in Poland is the domination of 'segmented knowledge' based on abstract theories and strict practice focused on more or less intensive professional work placements (Brooke, 2019; Martin et al., 2010; Maton, 2014). In neglecting the conceptualisation of knowledge practices in terms of semantic gravity, it ignores how the latter can successfully lead to creating conditions for cumulative knowledge-building.

As was demonstrated in previous research, Legitimation Code Theory allows for creating pedagogic interventions suitable for teaching skills and practices that were made explicit and recognisable and which constitute a demonstration of critical thinking (Kirk, 2017; Maton, 2014). Therefore, mastering semantic gravity, the ability to manage knowledge to be decontextualised, transferred and recontextualised, can improve critical thinking. As Samson (2019) states critical thinking is much required in decision-making and when reaching a professional judgment in social work practice; therefore, it can be assumed that the development of critical thinking in social work curriculum (e.g., writing assignments using critical reflection) contributes to a better understanding and efficient use of it in real-life situations. According to Kirk (2017), this type of reflection is transformative on condition

that the student is capable of distinguishing its 'everyday' form from that of a typical academic activity. Moreover, as there is a gap between those types of knowledge, he argues that it is necessary to search for tools that make valuable skills practice more explicit, attainable for both students and teachers. Sicora (2019) claims that reflective writing is an effective tool that enables connections between various forms of knowledge and perspectives, revealing organising principles which help in becoming a self-reflecting practitioner.

The following recommendations were made for future research and learning:

- an introduction of basic concepts connected to Legitimation Code Theory, particularly semantic gravity and 'semantic waving', i.e. as an instructional model can help improve critical thinking for those students submitting low-scoring essays. This is based on the principle that demonstrating knowledge practices has a positive effect on learning process and strengthens critical thinking thus connecting different forms and levels of knowledge so as to understand the structural conditions and recognise hidden power relations. In this respect, Legitimation Code Theory can serve as a tool for unmasking ways that structures of oppression work on an everyday level and avoids overwhelming 'misrecognition' that prevents individuals recognising social processes, including oppression, discrimination, etc. and taking them for granted, which then enables symbolic violence to continue unchecked and become formerly 'cognised' as part of an individual's habitus along with their dispositions and propensities (Bourdieu, 2000);
- it is recommended that social work curricula should deepen the emphasis on the importance of reflective approaches, such as critical thinking, as a valuable learning context for a reflective cycle integrating critical thinking with the experience and influence of subsequent acts of thinking and, in technical terms, the ability to skilfully balance resources and ethical consideration;
- strengthening critical thinking and 'academic writing' skills as a result of introducing concept of semantic gravity would open up future research investigating the consequences of applying semantic gravity to the social work curriculum by considering the use of methods in professional social work including 'reflective practice', effective academic writing, instructional models of teaching and cumulative knowledge building in social work theory and practice.

Building bridges between theory and practice is a significant activity for social work education preparing students for future societal challenges in which social workers face exclusion, injustice, and discrimination. It is essential to develop skills linking different levels of knowledge and practice based on critical thinking and investigating how awareness of semantic gravity could be useful in disciplinary practices if implemented in instructional models.

Disclosure statement

Notes on contributor

Marcin Boryczko is an Assistant Professor of Social Pedagogy at the Department of Pedagogy, Faculty of Social Sciences, University of Gdańsk, and a member of the International Federation of Social Workers, doing service as a Human Rights Commissioner. He teaches postgraduate and undergraduate courses in social work and is a member of several research teams working on social work education, critical thinking in social work, safety in social work practice, neoliberal governmentality in social work and social workers' protests.

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