

Critical Pedagogy and Children's Engagement with Climate Change: The Importance of the School and the Teacher

Üzeyir Tireli

University College Copenhagen, Denmark

Jens Christian Jacobsen

No affiliation, Copenhagen, Denmark

ABSTRACT

Raising children and young people's climate awareness through actions outside of school could be integrated into pedagogy; instead of the individual-oriented approaches in school, educators should develop a critical pedagogy where community change and political activism are at the core. In this article, we examine how a reformulation based on critical pedagogy literature can mobilize pupils so they can implement responsible and realistic climate actions. To support this process and especially the efforts of teachers in school, we developed a model demonstrating how this can be done. The model is theoretical and normative, and the design was inspired by the experiences from national and international research and development projects. This article draws on Paulo Freire's concept of critical pedagogy.

Keywords: critical pedagogy, climate change, Denmark, teacher education, pupils

The rapid acceleration of climate change, as well as the dangers it may bring about, are one of the most prevailing challenges of our time. Urgent action is desperately needed in both politics and in public administration. At the same time, changing people's state of mind in relation to consumerism, world resources, interconnectedness, and responsibilities at all levels of human life is vitally important.

Alarming reports of the extent of climate devastation have caused children and young people around the world to react. Twenty-year-old Swedish student Greta Thunberg has initiated school strikes, and pupils have been taking consumer boycott initiatives, demonstrating in front of stores that throw away usable goods and initiating other actions aimed at urging politicians to reverse the trend. Raising children and young people's climate awareness through actions outside of school could be integrated into pedagogy. Instead of the widespread individual-oriented approaches, educators should develop a critical pedagogy where community change and political activism are at the core. This is necessary because the challenges communities face, especially regarding environmental issues, cannot be solved through individual actions such as Facebook posts or avoiding air travel, but only through collective action (Crosman et al., 2019).

Primary school is traditionally the place where children listen and learn, but it could also be the place where they learn to organize and act. School can raise a radical but necessary awareness of a changed world. Here, critical pedagogy can show the way: Teachers can contribute relevant professional development and strengthen civic action and social responsibility, motivating pupils to challenge the status quo. Of course, this requires that the school management and the board accept that alternative learning paths to achieving competency goals do exist. Teachers have the power to enhance pupils' awareness, understanding, and actions in relation to climate change through curricular and extracurricular activities. Teachers can create awareness, transfer knowledge, and catalyze and channel pupils' positive energy towards their own and future generations. The formal curriculum may be helpful in teaching pupils advanced knowledge and skills, but it has shortcomings when it comes to translating knowledge and skills into real actions. Extracurricular activities (i.e., activities outside of school) have the potential to provide pupils with knowledge gained from real experiences.

Activities outside of schools but within the school curriculum need to be organized in such a way that allows professionals to cooperate in unusual ways in and out of the classroom and between the classroom and the community. We examine how a reformulation based on a critical-pedagogical tradition can mobilize pupils in school so they can implement responsible and realistic climate actions. Greta Thunberg has forged the path, and many schools and pupils around the world have taken up the challenge. To support this process, especially teachers' efforts, we developed a model demonstrating how this can be done. The model is theoretical and normative, and its design was inspired by the experiences of national and international research and development projects.¹ The model supports a political self-formation process and the development of social competences across school subjects.

A COMPREHENSIVE REVIEW PROCESS

Climate change and its serious consequences are a unique opportunity to recall Paulo Freire's critical pedagogy and the praxis of teaching climate change education. Our literature review provides a new interpretation of old material and an assessment of the sources and guidance for the reader on the most relevant research. Additionally, we identify gaps in the research and describe how a problem has been explored over time. We discuss Freire's philosophy of education and his core ideas of praxis. We present a model of a meaningful teaching process in climate change education, which provides an action-driven approach to teaching and learning about this challenge.

As background to this research, we studied literature that emphasizes Paulo Freire's work on critical pedagogy as the original base for critical actions in school. Since Freire worked in rural areas in Latin America, we recognize the need for more comprehensive and modern versions of critical pedagogy that could serve as theoretical inspiration for teachers in the Western world. Furthermore, for our topic of climate change, we need a reformulation of the critical pedagogy tradition that enhances collective action among pupils in primary school. This requires a more didactic and institutional approach to critical actions than the Freire tradition provides.

But one problem may be restrictions in Western primary schools' curricula, which do not allow learning to take place outside the school premises or be "political" in nature, but there are examples of newer action learning projects outside of school (Green Network, 2018). Where primary school experiences are lacking in the literature, we hope to develop suitable thought experiments for such actions. In order to be concrete and avoid case proposals that are removed from reality, we present a multi-stage didactic model for teachers.

CRITICAL PEDAGOGY AS A BACKGROUND FOR CLIMATE ACTION

The Brazilian educator and philosopher Paulo Freire was a prominent educator in the Third World who became known for his work *The Pedagogy of the Oppressed*, which he wrote about the importance of teaching the most disadvantaged. Freire believed that teaching was a form of cultural revolution that liberates the most disadvantaged, and he became an important advocate for a critical pedagogy that later spread to schools and educational institutions in many parts of the world.

One of Freire's best-known concepts is his criticism of the so-called *banking model* for education. It is a metaphor that addresses the lack of critical practice in today's schools. Freire explained that the banking model depicts schools acting much like banks, but instead of storing money in vaults, schools store knowledge in pupils, and the pupils act like empty vessels that are passively filled with knowledge the teachers think they should contain. Pupils are then able to withdraw the return rate in the form of jobs, reputation, and a good income. The banking model is a naive picture of pupils receiving, remembering, and reproducing the knowledge that teachers can provide. The more accurately pupils can reproduce knowledge in the exam, the more recognition they receive from teachers and the school system, allowing them to advance to the next grade level and eventually to the job market where good jobs await them. However, this was not a reality that the farmers of Brazil could recognize. Schools were too few, teachers were poorly educated, and available jobs were seasonal work on farms for a meagre salary.

In direct contrast to this banking model, Freire developed a shared reflective learning process that cultivates knowledge based on a group of people's lived experiences and collective social history. Freire often emphasized the need for a problem-

¹ Critical pedagogy in school means more than pupils' self-management and self-determination; the goal of critical pedagogy is social justice (Tireli & Jacobsen, 2019). In critical pedagogy, the school is seen as a turning point in creating a better and more just society, but in practice critical pedagogy has often remained limited to self-management activities and insulated project work in schools without reflection on how to raise awareness among pupils to make society more socially just. The fight for the climate is an opportunity to link schools' microprocesses with an overall social goal.

based approach that allowed teachers and pupils to create knowledge together by listening, engaging in dialogue with others, and acting. Freire believed that only in this way and only on the basis of a critical consciousness can humans learn to imagine better living conditions and change their realities (Freire, 2000). In the context of school, this means that through specific themes and analyses of their everyday lives, pupils can learn to understand why, how, and who is influencing and shaping their environment and everyday life. The model we present below describes in detail how such an analysis can be conducted and how awareness raising through one action becomes a prerequisite for the following actions.

Freire's approach was originally developed for illiterate farmers in Brazil; an important part of Freire's pedagogy was therefore to teach farmers to critically address oppression and social injustice. His pedagogy was based on *conscientização*—the assumption that consciousness and knowledge of life's challenges would promote the desire to change the world among people who share the same conditions of existence. Smith-Maddox and Solorzano (2002) proposed a newer definition of consciousness that we draw on; it is more educationally relevant for pupils in a world facing severe climate change. To be conscious means to be a person who (a) can criticize social differences and social structures that impede decisions on the design of public and private spaces and (b) is willing to engage in social action to accomplish change.

Consciousness as a principle remains relevant at a time when humanity is slowly undermining its own existence by destroying the planet. The environmental issue is a common challenge for everyone, and the need to further develop Freire's pedagogy in a contemporary context is obvious. Today, the political, and thus, educational struggle is about human survival all over the world.

OTHER FORMS OF CRITICAL PEDAGOGY

Freire was not alone in challenging the banking model of education, which is essentially a reproduction of the norms, needs, and interests of the middle and upper classes. Other critical approaches have been an inspiration for a more contemporary reformulation. One of the most significant works was by the Centre for Contemporary Cultural Studies (CCCS), or the Birmingham School—where researchers throughout the 1970s and 1980s worked on cultural reproduction theories and projects and demonstrated that cultural communities, which they called subcultures, could be seen as resistance to structural repression, represented, for example, by the school system.

The Birmingham School had no direct influence on elementary school, neither in England nor in Scandinavia, but it is mentioned here as an inspiration, as it sought to bring about concrete social change through critical-pedagogical practices. The concept of subculture was also used by other and more sociologically oriented researchers associated with the Birmingham School, but their contribution consisted more of linking Marx-inspired subculture studies (Chen & Morley, 1996) to studies of young people's unemployment, school reproduction of labor market hierarchies (Willis, 1977), and routine and joyless working conditions, among other things.

The Birmingham School emphasized that young people demonstrate forms of resistance to the social conditions they are subject to. These forms of resistance created a kind of freedom for the young, but they did not provide solutions to structural problems, and the youth remained passive victims of low-wage trivialization and meaninglessness (Jensen, 2012). Similar criticism can be raised against the Thomas Ziehe-inspired youth studies, which exposed notions of "liberating" modes of action simply by being different and unusual (Ziehe, 1989, 2004), but which fell short on the question of change and acting on structural oppression. Nevertheless, since the 1980s and until today, Ziehe has had tremendous influence on the education of primary school teachers, but very little influence on primary school education.

Similar to Freire and the CCCS, Critical Youth Studies (CYS) assumes that resistance can be promoted through formal processes in existing environments through, for example, multi-generational collectives, sports clubs, schools, and in civic houses. CYS believes that young people can create new forms of spaces where resistance and tolerance are developed by formal and informal processes through pedagogy and social criticism. The experiences young people gain when they act are crucial to creating a greater popular movement for social justice and equality.

Furthermore, the influence of Professor Knud Illeris at Roskilde University in Denmark has been considerable, especially regarding teacher education programs since the 1970s until very recently (Rømer, 2002). Illeris openly acknowledges that the purpose of his version of critical pedagogy was a change of society in a socialist direction and that teachers and pupils should actively work towards this goal. This must be done while maintaining a certain balance: On the one hand, teachers must build on the capitalist value-adding logic that permeates primary school (social relations, subject hierarchies, tests, and exams); on the other hand, capitalist society needs creativity and a critical sense whereby the school is actually good enough as it is. The knowledge and skills pupils learn should only be oriented towards liberation, but the path from the purpose of education to political change in society is somewhat unclear (Illeris, 1974a, 1974b, 1985).

Both the CCCS and CYS investigate how groups of people can be mobilized and how they might contribute to change through various modes of action. The CCCS's primary argument is that those individuals who are capable of criticizing oppression can potentially transform systems and institutions. The CCCS claims that most forms of resistance express what they refer to as "self-defeating resistance" (Willis, 1997). Willis's study of working-class youth exemplified this negative form of resistance when the students in the study criticized the education system but failed to act so that changes in everyday life in school could take place. Instead, their reaction was to disrupt teaching in the classroom, thereby actually reinforcing the school's "reproductive function" (Bourdieu, 1977) by dropping out of school and becoming failures in life. As a result, the school system continued as if nothing had happened.

The work of CYS is based on equilibrium models of social space and does not question the market governance of the community (Dimitriadis, 2014). However, CYS provides further development and reformulation of forms of resistance and demonstrates that young people are not inherently predisposed to either transformative or self-destructive forms of resistance (Johansson & Lalander, 2012). Young people learn to act in informal contexts, for example through youth groups in local communities or through formal processes in schools. Here forms of resistance can be developed through supportive pedagogy (Cammarota, 2008, 2017), but CYS primarily aims to transform the school system in a more contemporary direction so it can include young people's experiences outside of school.

Illeris's design of a critical pedagogy was a great success in teacher education and to a certain degree in the social sciences at Roskilde University. In primary and secondary education, however, participatory governance and learning through project work did not become counter-qualifying as Illeris's version of critical pedagogy intended, but rather solely didactic methodological innovations in the subjects centered around group work as the ideal form of teaching organization. Illeris did not mean that the purpose of public schools could justify a political curriculum, and his project on a political counter-qualification faded over time (Rømer, 2002).

Our reading of the literature shows a focus on children and the young, recognizes the fundamental importance of the learner's interest, defends the thesis that activity lies at the root of all true education, conceives learning in terms of life situations and personal growth, and champions the child's rights as a free individual. The literature review also shows that critical pedagogy lacks critical political direction and focuses on freedom rather than on social change. As a result, we question how individually focused freedoms may give rise to collective action necessary for social justice work in schools. The existing literature fails to engage with the problems and everyday educational contexts teachers face. Few, if any, critical pedagogues believe that critical teaching practices can be reduced to prescriptive formulas. The model we propose is not meant to be a recipe for critical teaching; it is merely an inspirational roadmap for collective action.

With climate change and its fatal consequences evident in our present reality, the conditions of growing up and of education have become more dystopian than in the 1970s. Forms of resistance such as wearing a mohawk hairstyle, being informal with the teacher, and conducting problem-oriented group work are not enough to solve the problems society faces. Therefore, there is good reason for relinquishing "cultural liberation" in favor of a social change pedagogy that goes beyond the individual perspective, cultural appearances, and differences.

ENVIRONMENTAL DESTRUCTION AS A STARTING POINT FOR CRITICAL PEDAGOGY

We can learn from the CCCS and CYS that critical consciousness does not automatically follow from one's position in a social hierarchy or as a result of class (Benschop, 1993/2012; Johansson & Lalander, 2012). There is no structural determination in either participation in environmental policy or susceptibility to pedagogy. The reason is not that class affiliation does not matter, but that structural conditions today are more hidden from the individual's consciousness than before; class differences are not as clear as they once were (Benschop, 1993/2012). With neoliberal governance in Western societies and socioeconomic deregulation, societal development and structure are explained as unique events with weak or non-existent connections to other events. Based on the same logic, problems caused by structural societal issues could be solved through individual actions such as eating less meat and driving less. In so doing, society appears to be, on the one hand, an extension of one's own actions, desires, and needs, and on the other hand, inexplicable in situations that cannot be directly related to oneself. But environmental change is visible to everyone and manifests everywhere, as is evident by the intense media coverage. Widespread devastation thus serves as an eye-opener in connection with *victim privatization* and individualized solutions. When heavy rainfall causes floods, it is not only one's own garden and basement that are submerged in water. It also happens to the neighbors, and the solution depends on everyone in the neighborhood being able to act jointly.

In order to devise political strategies for the environment, it is quite obvious that there are only a few role models from whom we can learn (Klandermans, 1992). Besides, the modes of action in critical pedagogy cannot be only locally rooted

but must be conducted with a global perspective. The climate is getting worse day by day, causing global poverty to increase as thousands from the poorest parts of the world, indigenous people, and ethnic minorities have their living conditions destroyed.

CRITICAL PEDAGOGY AT SCHOOL AND AT HOME

What can a modernized Freire-inspired pedagogy look like in today's primary schools? One aspect from the 1960s that will remain unchanged is that teaching must be based on an understandable reality, such as pupils' own experiences or feelings about climate change. Here, critical pedagogy does not differ from other experience-based approaches, but Freire believed that the interaction between teacher and student should be based on equality and symmetry (Freire, 1993, 1994). This would be difficult to fit into rigid subject structures, and goal management and testing in teaching presuppose an asymmetric teacher-student relationship (Bundsgaard & Kreiner, 2019).

In addition, critical and real-life pedagogy must be based on activities that promote participation — for example in-class brainstorming, interactive games, and pupils' active search for knowledge — instead of solely reading texts. Critical pedagogy aims to break down the hierarchy between teacher and pupil and teach the teacher to do more than just communicate knowledge from books or other texts in order to reach specific subject goals that can be checked in exams. Even so, critical pedagogy can meet subject goals for teaching just as well as traditional classroom teaching, if not better (Abrahams, 2016). Critical pedagogy must be adapted to pupils' requirements, and from there work towards societal change.

Activities are selected based on pupils' age and can include debates, guided hikes, films, historical timelines, role-playing, poster production, or other pursuits that can encourage discussions and knowledge sharing. The goal of critical pedagogy is to encourage action, and whether it is devising a composting plan with the local community or providing concrete resistance to road construction, this can be promoted by finding stories about forms of resistance from similar grassroots projects that can inspire, including making resource lists, holding tactics meetings, creating alliances, and exchanging ideas with resident groups.

Critical pedagogy varies, depending on whether it is for learners who are 0 to 6 years old (daycare), 6 to 14 years old (primary school), or 14 to 18 years old (secondary education). In the following section, we explore how teachers and social educators can work together to provide pupils in primary school with relevant knowledge about current societal challenges and how this knowledge can be translated into critical actions, inspired by Greta Thunberg, among others. Schools should teach young people how to organize in order to demonstrate climate devastation, which adults do not take seriously enough. The reason why social educators participate in the development of critical pedagogy in elementary school is, firstly, that the sharp division between schools and school leisure systems no longer exists in Denmark, especially since the advent of "school pedagogues" in the latest teacher education reform. Secondly, critical and political actions around climate change among children must be based on trust relations, and school pedagogues know how to relate to parents, children, and the community. This is a tremendous advantage, as will be shown below.

In this context, actions are not only a matter of informing about nature and climate change, but also a political mobilization of resistance against the ever-increasing devastation of the planet, with the aim of promoting a different orientation in society based on active participation and social justice for all. Pupils and schools develop pedagogic strategies and work towards creating forms of interactions with the environment that can be used as a basis for establishing communities of children and young people who are aware of the interrelations between the environment, poverty, and social injustice. To this end, it is important to have parental support, and the following steps can be used as basic landmarks.

Break the silence: Today, more and more families around the world are experiencing the negative effects of climate change already at their doorstep, and children feel the changes too. Others, who are privileged enough to have avoided the direct consequences so far, are also struggling to tackle the constant and anxiety-provoking news about the environment. Despite the climate crisis affecting everyone on Earth, far too many families are left alone with their concerns. Schools have been and still are well-suited places for families to meet and share their concerns. This is already happening all over the world.

Provide factual information: Teachers and social educators must tell pupils the basic facts. There are many polls showing that most parents, regardless of their political orientation, agree that children should learn about climate destruction (Ekholm and Olofsson, 2017). However, parents may be reluctant to talk to their children about it because the topic can be too emotionally stressful, and they may not want to expose their children to scary dystopias. However, factual information need not seem daunting, and it can counteract passivity, especially if it is disseminated in an age-appropriate manner. This is precisely the strength of a critical approach: Information is followed by discussions and action, and parents and communities play a vital role.

Teachers and social educators are best equipped to know how to talk to children about climate devastation. They can ensure an understandable level of information and know how to disseminate knowledge so that it does not seem daunting. At the same time, discussions with peers in the classroom can dispel rumors and fake news that pupils have heard from others or read online. Moreover, the dimension of action in teaching is a concrete indication that something can be done to prevent the destruction; everyone can contribute.

Get outside: Many parents would agree that an indoor life of sedentary reading on screen viewing fails to promote the desire to be active. Teachers and educators know this too, and they need to get pupils to spend as much time as possible outside, where they can see, smell, feel, and hear nature instead of just reading about forest fires, floods, and species extinctions. A lawn or a vegetable garden can also be used for examinations and discussions about designing a community. Children can even observe ants on the sidewalk; an anthill is a fine illustration of how communities can be organized, and comparisons with one's own community can illuminate that everything has its place and everyone plays a role.

Focus on emotions: Pupils in primary school are easily emotionally affected by what they hear about the climate. When they hear that sea turtles die from eating plastic, they react emotionally and may need to talk about this with adults they trust. They may ask, for example, "Why do people throw plastic into the sea when they know the turtles will die?"

Children's concerns about the environment are widespread. In Australia, for example, a new specialty in psychology—climate psychology—has been developed, which addresses climate anxiety in children and adults. Through its action orientation and common approach, critical pedagogy can positively influence pupils' climate anxiety, such as through emotion-focused coping like seeking opportunities to spend time with adults the child trusts and performing activities that demonstrate action and will. This would enhance pupils' resilience at a time when information about the climate fills everyday life, and it can develop confidence to act the next time a storm causes havoc in the park around the corner or help the next time parts of the roof fall after a storm. It is not the end of the Earth—you can plant new trees and build new roofs.

Take action: Emotional mastery must be followed by problem-focused mastery. Together, we can do something that might prevent us from feeling stressed and scared the next time we experience climate change. Schools can take initiatives to bring together pupils' families, collect garbage, or make specific demands from local politicians. There are activities suitable to everyone at all levels, regardless of time or finances. People can be supportive of what the school is doing, support the different forms of action, and defend the school against attacks about "politicizing" the teaching. Actions by the school that are based on togetherness, discussions, and knowledge-gathering are skills training—skills that an active and conscientious adult life must possess for the planet to survive.

A CONCRETE DIDACTIC MODEL

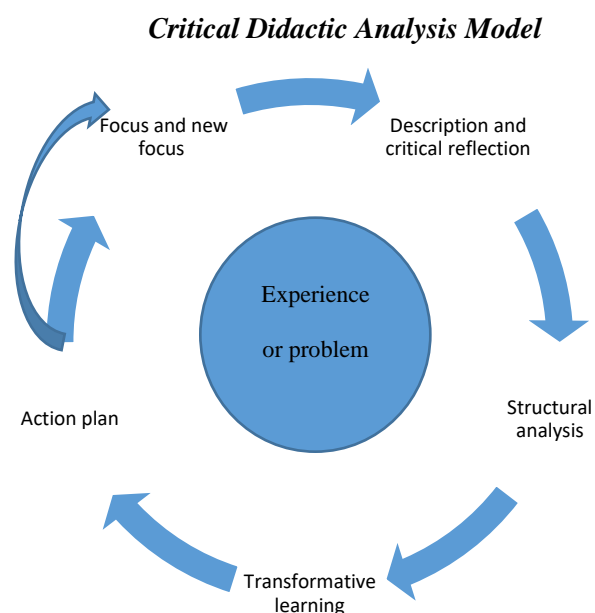
To equip pupils with the necessary skills for our present reality, Tireli and Jacobsen (2019) developed a critical didactic analysis model that can be used by teachers in their work with children and young people. The model is a proposal because it hasn't been tested. Since critical pedagogy had the most influence on schools' didactic method development, the model's progressions would be familiar to many teachers and social educators. The model is illustrated in Figure 1.

The model has five consecutive steps, with the experience or problem at the center, and the analysis proceeding clockwise from "description and critical reflection" through each of the successive steps. The model is circular, indicating that the work on critical pedagogy and pedagogical development is a continuous process. Each time the teacher completes the circle, they end up with a new experience or problem that results in a *new focus* that must go through the same cycle of steps.

The *experience or problem* should be reflected in teaching about the environment, where the teacher listens to pupils' conversations about what they have just learned about the environment. For example, teachers and social educators may talk about a recent large demonstration against climate destruction in the Netherlands and Norway and how it can be useful to do something locally in light of unusual floods that have occurred in the fields and woods near the school.

Teachers and social educators could then launch a project, giving pupils the opportunity to immerse themselves in the causes of increased rainfall at a time of year when it doesn't usually rain much. The pupils may then decide to go out and see how the water destroys next year's crops and grasslands for cattle; they can also visit two of the large farms higher up in the countryside that were relatively unaffected by rainfall and floods.

Figure 1



Note. This model comes from Tireli & Jacobsen, 2019, p. 63.

A description and critical reflection of the situation informs the project, exposing the circumstances that affect practice. How are the project elements linked together? Who will be affected and who will be able to influence the implementation of the project? How can the project be linked to other subjects and other projects in school? These are some of the questions that teachers and social educators could ask pupils. In this example, they facilitate a process in which pupils investigate and reflect on what increased rainfall means, why rainfall increases, and what could be the consequences. There are many options for action when pupils investigate climate change. For example, teachers and social educators could prepare an interview guide in collaboration with the pupils, who could then interview some of those affected by the floods, asking, for example, what the climate was like when they were children compared to now. They could also visit farms to investigate how different types of production determine who suffers the most in the flooded areas.

The structural analysis is about linking impressions on a subjective level to a structural power perspective: Who has the power to make decisions? A structural perspective avoids individualization of problems and solutions. This insight is derived from processes of deeper understanding between the teacher and the pupils. In the example above, it could result in a focus on diet and land-use in modern farming and the depletion of resources. For example, how does each pupil's consumption of meat and grain translate to carbon dioxide (CO₂) emissions compared to the climate impact of air travel? Or why are rainforests being eradicated? Teachers can help pupils to link their own existence to climate impact and explore the advantages and disadvantages of various forms of farm living in a farming community.

Transformative learning is about extracting learning from the analysis, which results in cognitive changes. This kind of learning can be both individual and shared: The individual pupil may learn that there are close correlations between their family's meat consumption and the state of the environment or between discarding clothing that are considered unfashionable and their carbon footprint. The result may be that the pupil becomes a vegetarian or a recycler. Pupils' individual considerations can inspire and lead to collective learning in class; for example, pupils could agree to cut down on meat consumption at home and insist on discussing effective ways to reduce CO₂ emissions with their families. For the teacher or educator involved in the project, it can be interesting to discover what they learn from the project and how they will use this knowledge in their teaching.

An action plan must be implemented to ensure that the analysis and transformative learning lead to change. During this phase, several actions are implemented in order to solve or change the problem that was originally the focal point. In this example, the pupils, together with their teachers and social educators, could appoint *guards* who inform the community on how to prevent fertile agricultural land from being destroyed by modern production, or at least, and based on their daily experiences, what it is like to live without wild nature and close to chemical polluting farms. The purpose is to strive for

everyone's benefit and ultimately for the environment as well. Pupils can also act as guards at home and tell their family when "bad" consumption increases or decreases.

In *focus and new focus*, pupils continue to work on the same or related themes in the classroom and in school. Critical learning is a long-term process in which pupils must continue to challenge themselves and their surroundings. Once teachers and pupils have gone through the various phases of the model, they have probably gained experience with actions that are possible to perform outside of school. Those experiences could designate a new focus or field of object. Pupils are likely to discover that adults are not as concerned about the environment as they are. This could become a new focus: How do we get adults to be more active around climate change? This is another opportunity for teachers and social educators to plan a new project and for pupils to learn together from working on the model.

COMMUNITY, REFLECTION, AND ACTION

The stages of the model were briefly described and exemplified using a climate theme with pupils. In fact, any theme can be addressed with this model; teachers and social educators can repeatedly test the model across various themes. The model is not only an analytical tool; it has potential for developing communities and encouraging reflection as well as action and maybe even some kind of community mobilization. In this way, the key elements and values of critical pedagogy are translated into practice. The starting point in the example above is pupils' concern for the environment, followed by relevant and practical action outside of school. The problem is handled in such a way that pupils have to agree on the division of work, whereby their tasks are clarified. They are obliged to deliver results (to be practical) and comply with agreements so that accountability and reciprocity within the group are acknowledged and appreciated. The first and second phases of the model contribute to this process and, thus, also to a more general concept and phenomenon, namely community. The use of the model across multiple themes shall thus strengthen a sense of responsibility among pupils, as they will experience how such problems and solutions can be handled jointly.

Community and collective identity are prerequisites for the formation of critical communities (Diani, 2011). The most important element of a critical 21st century pedagogy is the recognition that no one is alone and we are all deeply dependent on one another.

The next phase of the model—structural analysis—is on the one hand a concrete analysis, and on the other hand a process of reflection and awareness aimed at challenging and developing pupils' understandings of the phenomena they study. A common understanding of phenomena is another prerequisite for critical communities (Diani, 2011). By connecting causes with effects and emphasizing the local perspective within the global one and individual experience of the problems conditioned by structures, pupils learn that they do not need to feel passive, oblivious, or dismissive of environmental and societal themes in everyday life. They will have a common awareness that with the help of other people's support, conditions can change. Furthermore, a distinctive feature of critical pedagogy is its insistence on actions that should improve conditions for ordinary people. The last three phases of the model—transformative learning, action plan, and focus and new focus—are oriented towards the actions and activities for justice that pupils have agreed upon in their work with the model. Teachers and social educators guide the actions, and pupils—the citizens of the future—learn that it is possible to achieve a better world.

SUMMARY AND DISCUSSION

There is concern about the environment and climate change in large parts of the population around the world. International organizations such as UNESCO and the European Union, as well as the Danish Government, provide concrete recommendations on what each citizen and institution can do to better protect the environment and stop climate change. Teachers and social workers must take the opportunity to work purposefully with pupils' climate awareness and develop forms of action that contribute both to a better environment and to insight and learning. To this end, we developed the model described above. However, it is important that the main focus on the climate issue does not remain centered on the climate or become reduced to traditional teaching on the environment with a focus on recycling, saving resources, reducing CO₂ emissions, etc. Instead, climate change needs to be seen in the context of other societal challenges that can be addressed in pupils' group work in and outside the school.

Today there is a tendency for teachers to be encapsulated in classrooms with strict requirements for documentation of achieving specific academic goals. This reproduces existing power relations and cultural understandings where schools are oriented towards and organized as markets and where testing is the objective measure of the quality of learning. According to critical pedagogy, teachers should instead use their education and pedagogical authority to support societal transformational processes and involve pupils in an age-appropriate way and with parental support.

There are considerable differences between traditional banking pedagogies and problem-based critical pedagogy. Banking pedagogy provides pupils with the type of knowledge that others would like them to learn. Problem-based and critical pedagogy, on the other hand, allows pupils to discover new knowledge through authentic learning processes whereby they can create and develop knowledge in cooperation with others. This problem-based approach creates autonomy when pupils find they can learn something essential without reproducing existing knowledge. In the example above, pupils decided who should be interviewed and discovered information the teacher did not necessarily know in advance. Banking pedagogy does not enable pupils to think independently; rather, it forces them to depend on the authority's approval of the knowledge they seek and find (Cammarota, 2008). Problem-based pedagogy in action groups can encourage independence and mutual trust.

In working with climate change and its impact on humanity in the classroom, the task of teachers and social educators is to support pupils in exploring a world that is unfairly organized. Although children and adolescents have different experiences and living conditions, they often have similar experiences of disempowerment in everyday life. CYS has shown that it is useful when teachers and social educators, together with pupils, respond to these constraints. It is possible to develop critical pedagogy and, in the long term, contribute to an education system that works for equality and against the threats that could destroy life on Earth.

Critical pedagogy is political because it aims to change and improve the world by changing the conditions for the growth and future of children and young people. Critical pedagogy mobilizes pupil communities and works to qualify the experiences and interests of children and young people, as well as trying to link education with social engagement outside of school. Teachers and social educators are agents of change, or what Giroux, inspired by Aristotle, calls "public intellectuals" (Giroux, 1994). This concept is also inspired by Antonio Gramsci (1998), who believed that broader societal processes of change require intellectuals who link the common purpose of school to human struggles and social and cultural liberation.

Teachers and social educators play a significant role in forming pupils' consciousness and making actions realistic without being manipulative. Pupils learn to discover patterns between old and new knowledge. In this way, it is not only the pupils who become consciously aware, but also their surroundings, including teachers and social educators. Through teaching processes and project implementations, the school could transform in a socially responsible and critical direction.

REFERENCES

- Abrahams, F. (2016). Chp. 13: Assessment and critical pedagogy. I: *The Oxford Handbook of Assessment Policy and Practice in Music Education*, 2, 306-326
- Benschop, A. (1993/2012). *Classes - transformational class analysis*, Amsterdam: Spinhuis
- Bourdieu, P. (1977). Cultural reproduction and social reproduction. In J. Karabel & A. H. Halsey (Eds.), *Power and Ideology in Education* (pp. 487-511). New York: Oxford University Press.
- Bundsgaard, J. & Kreiner, S. (2019). *Undersøgelse af De Nationale Tests måleegenskaber*, 2. udgave. Aarhus Universitet, DPU
- Cammarota, J. (2008). The cultural organizing of youth ethnographers: Formalizing a praxis-based pedagogy. *Anthropology & Education Quarterly*, 39(1), 45-58
- Cammarota, J. (2017). Youth participatory action research: A pedagogy of transformational resistance for critical youth studies. *Journal for Critical Education Policy Studies*, 15 (2), 188-213
- Chen, K.H. & Morley, D. (eds.) (1996). *Stuart Hall - critical dialogues in cultural studies*. Taylor & Francis Ltd
- Crosman, K. M., Bostrom, A., & Hayes, A. L. (2019). Efficacy foundations for risk communication: How people think about reducing the risks of climate change. *Risk Analysis*, 39(10), 2329-2347
- Diani, M. (2011). The concept of social movement. *The Sociological Review*, 40(1), 1-25
- Dimitriadis, G. (2014). *Resistance: The anatomy of an idea*. In E. Tuck, & K. W. Yang (Eds.), *Youth resistance research and theories of change* (pp. 29-45). New York, NY: Routledge
- Ekholm, S. & Olofsson, A. (2017) Parenthood and Worrying About Climate Change: The Limitations of Previous Approaches. *Risk Analysis*, vol.37, Issue 2 p. 305-314
- Freire, P. (2000). *Cultural action for freedom*. Harvard Educational Review: Cambridge, MA, USA
- Freire, P. (1993). *Pedagogy of the oppressed*, London: Penguin Books
- Freire, P. (1994). *Pedagogy of hope: Reliving pedagogy of the oppressed*. New York: Continuum.
- Giroux, H. (1994). Teachers, public life and curriculum reform. *Peabody Journal of Education*, 69 (3), 35-47.

- Gramsci, A. (1998) *Selections from the Prison Notebooks*. Q. Hoare & G. Nowell-Smith (eds) London: Lawrence and Wishart.
- Green Network (2018). Policy paper, <https://green-eu.net/>
- Illeris, K. (1974a). Skolens formål er ikke det samme som dens faktiske funktion, *Pædagogisk Orientering*, 2, 19-24
- Illeris, K. (1974b). *Problemorientering og deltagerstyring -oplæg til en alternativ didaktik*. København: Munksgaard.
- Illeris, K. (1985). *Modkvalificeringens pædagogik -problemorientering, deltagerstyring og eksemplarisk indlæring*. 2. oplag. Nyt forord (1. udgave 1981). København: Unge Pædagoger.
- Jensen, S. Q. (2012). Stuart Hall: Kulturforskning som kritisk engagement. I M. Hviid Jacobsen & A. Petersen (eds.), *Samfundsteori og Samtidsdiagnose: En introduktion til sytten nyere samfundstænkere for det pædagogiske felt* (pp. 21-35). København: Unge Pædagoger.
- Klandermans, B. (1992). The social construction of protest and multiorganizational fields. In A. D. Morris & C. M. Mueller (Eds.), *Frontiers in social movement theory*, (pp. 77-103). New Haven, CT: Yale University Press
- Johansson, T. & Lalander, P. (2012) Doing resistance – youth and changing theories of resistance, *Journal of Youth Studies*, 15:8, 1078-1088, DOI: 10.1080/13676261.2012.693591
- Rømer, T.A. (2002). Læring og objektivitet i projektarbejdsformen, *Nordisk Pedagogik*, 2, 88 – 98.
- Smith-Maddox, R. & Solórzano, D. G. (2002). Using critical race theory, Paulo Freire's problem-posing method, and case study research to confront race and racism in education. *Qualitative Inquiry*, 8(1), 66–84. <https://doi.org/10.1177/107780040200800105>
- Tireli, Ü. & Jacobsen, J.C. (2019). *Kritisk pædagogik for pædagoger – social retfærdighed for børn og unge*. Akademisk forlag
- Ziehe, T. (1989). *Ambivalenser og mangfoldighed*, Politisk Revy
- Ziehe, T. (2004): *Øer af intensitet i et hav af rutine nye tekster om ungdom, skole og kultur*. Politisk Revy
- Willis, P. (1977). *Learning to Labour: How Working Class Kids Get Working Class Jobs*, Westmead, Farnborough: Saxon House.
-

Üzeyir Tireli, PhD, is a, Associate Professor in the Faculty of Social Education and Social Work at University College Copenhagen in Denmark. His research interest is on the of ethnic and cultural inclusion and exclusion processes in pedagogical environments. He has published research-based articles and books, as well as being a contributor and author of several textbooks. Email: ut@kp.dk

Jens Christian Jacobsen, EdD, former Head of Center in STEM & Evaluation, University of Copenhagen. He has researched various topics in curriculum development, critical pedagogy, and sociology of education. He taught graduate students in pedagogy and teacher education. Email: jcj2049@gmail.com

Manuscript submitted: August 12, 2020

Manuscript revised: November 23, 2020

Manuscript revised: April 26, 2022

Manuscript revised: August 27, 2022

Accepted for publication: September 24, 2022