IMPROVING THE METHODOLOGY OF USING EDUCATIONAL SITUATIONS IN FORMING A CONSCIOUS ATTITUDE TOWARD NATURE IN SCHOOLCHILDREN

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Abstract

This article examines ways of refining the methodology by which educational situations are applied to cultivate an environmentally conscious outlook among school students. Drawing on an analysis of pedagogical theory and classroom practice, the paper argues that a deliberately constructed situation — one that places the learner before a value-laden ecological choice — activates the emotional, cognitive, and behavioural components of ecological culture far more effectively than the transmission of ready-made environmental facts. The author proposes a staged model for designing such situations, describes the didactic conditions under which they operate most productively, and reports the outcomes of experimental work conducted in general secondary schools. The findings indicate that systematic use of problem-based, game-based, and reflective educational situations produces a measurable shift in pupils' motives, judgements, and everyday behaviour with respect to the natural environment.

Keywords: ecological education, conscious attitude toward nature, educational situation, situational method, ecological culture, environmental upbringing, pedagogical technology, value orientation.

Introduction

The deepening ecological crisis of the early twenty-first century has turned environmental upbringing from a peripheral school concern into one of the central tasks of general education. Climate instability, the depletion of water resources, soil degradation, and the loss of biological diversity are no longer abstract global processes: their consequences reach directly into the everyday life of every community. Under these conditions, society expects the school not merely to inform young people about nature, but to raise a generation capable of evaluating its own actions through an ecological lens and of taking responsibility for the state of its immediate environment.

Practice shows, however, that knowledge alone does not guarantee responsible behaviour. A pupil may reproduce the definition of an ecosystem faultlessly and, an hour later, leave litter in the schoolyard without the slightest hesitation. This gap between what learners know and how they act points to a weakness in the prevailing methodology: environmental content is too often delivered as finished information to be memorised, rather than lived through as personal experience. A conscious attitude toward nature — understood as the unity of ecological knowledge, value-based conviction, and habitual behaviour — cannot be transmitted; it must be formed in activity, through choices the learner makes personally.

It is precisely here that the educational situation acquires its methodological significance. By an educational situation we mean a purposefully organised fragment of the pedagogical process in which the pupil is confronted with a task, a contradiction, or a moral dilemma connected with nature and is obliged to analyse it, adopt a position, and act. Such situations convert environmental content from an object of memorisation into a field of personal decision-making. Although the situational approach is well described in general didactics, its potential for ecological upbringing remains insufficiently systematised: teachers apply individual situations episodically, without a coherent methodology of design, sequencing, and evaluation. The purpose of the present article is therefore to substantiate an improved methodology for using educational situations in forming schoolchildren's conscious attitude toward nature and to verify its effectiveness experimentally.

Literature Review

The theoretical foundations of ecological education were laid in the works of scholars who treated the attitude toward nature as a component of the personality's general culture. In this tradition, ecological culture is interpreted as a three-layer construct embracing cognitive elements (systematised knowledge of natural processes and of the interaction between society and the biosphere), axiological elements (recognition of the intrinsic worth of living nature), and praxeological elements (readiness for environmentally sound activity). Researchers of subjective attitudes toward nature have demonstrated that the emotional channel of perception matures earlier than the rational one, which implies that upbringing strategies relying exclusively on factual instruction miss the most sensitive period for value formation.

A second stream of scholarship concerns the situational approach in didactics. The concept of the pedagogical situation as the elementary unit of the educational process has been developed within personality-oriented education, where the situation is regarded as the mechanism that transforms external cultural content into internal personal meaning. Studies of problem-based learning have shown that a contradiction experienced by the learner generates intellectual initiative that cannot be produced by direct exposition. Case-based and game-based technologies extend this logic by embedding the problem in a socially recognisable context and by distributing roles among participants.

At the same time, a comparative analysis of these two streams reveals a gap. Works on ecological upbringing name the situation among possible means but rarely specify how situations should be constructed, ordered, and assessed with respect to ecological goals; works on situational didactics, for their part, elaborate the design of situations but seldom address the specific character of the attitude toward nature, which combines rational, moral, and aesthetic dimensions. The methodology proposed below is intended to bridge this gap.

Research Methodology

The study combined theoretical and empirical methods. At the theoretical level, comparative analysis of pedagogical, psychological, and methodological literature was used to clarify the notion of a conscious attitude toward nature and to construct a typology of educational situations. At the empirical level, a pedagogical experiment was organised in general secondary schools with pupils of grades 5–7, an age at which value orientations are still highly mobile while the capacity for reasoned judgement is already sufficiently developed. Experimental and control groups of comparable composition were formed; instruction in the control group followed the standard curriculum, whereas in the experimental group the same curricular content was delivered through a purpose-built system of educational situations.

The level of the pupils' attitude toward nature was diagnosed before and after the experiment by means of complementary instruments: questionnaires revealing ecological knowledge; projective tasks and unfinished-sentence tests disclosing value judgements; and structured observation of behaviour during excursions, school duty, and extracurricular activities. Aggregating the three components, each pupil was assigned to a low, medium, or high level of conscious attitude toward nature. The reliability of the shifts recorded was checked with standard statistical procedures for comparing distributions in independent samples.

Results and Discussion

The first result of the study is a typology of educational situations oriented specifically toward ecological goals. Four basic types proved productive. Problem-search situations confront pupils with a contradiction between familiar facts and a new observation — for instance, explaining why a river within a protected zone continues to lose its fish population — and require them to formulate hypotheses and seek evidence. Moral-choice situations place the learner before a dilemma in which personal convenience conflicts with the interests of living nature, so that the decision reveals and simultaneously shapes value orientations. Role-playing and simulation situations reproduce socially significant contexts — a public hearing on the construction of a plant near a wetland, a court hearing in defence of an endangered species — and oblige participants to argue positions other than their own. Finally, reflective situations, organised after practical activity, turn the pupils' attention to their own motives and actions, converting spontaneous experience into conscious position.

The second result is a staged model for applying these situations. The model comprises five interconnected stages. At the diagnostic stage the teacher establishes the pupils' initial level of ecological

knowledge, dominant motives, and typical behaviour. At the design stage a situation is constructed with regard to three requirements: it must contain a genuine contradiction accessible to the given age; it must touch the pupils' personal experience or local environment; and it must leave the outcome genuinely open, since a situation with an obviously prescribed answer degenerates into disguised instruction. The realisation stage is the enactment of the situation itself, during which the teacher acts as moderator rather than as source of correct answers, sustaining the dialogue with clarifying questions. The reflection stage transforms the emotional response into articulated judgement: pupils verbalise what they felt, how they decided, and what they would do in similar real circumstances. At the consolidation stage the conclusions reached are carried into practical activity — school greening projects, monitoring of a nearby spring, preparation of ecological materials for younger classes — so that the newly formed judgement is fixed in behaviour.

Thirdly, the experiment allowed us to identify the didactic conditions under which the situational methodology yields the greatest effect. These include the regularity of situations rather than their episodic use; a gradual increase in their complexity, from situations of perception and evaluation toward situations of independent ecological decision-making; reliance on local, personally significant material of the pupils' own district; combination of individual and group forms of participation; and the emotional involvement of the teacher, whose own demonstrated attitude toward nature functions as a reference model.

The quantitative outcomes of the experiment confirm the productivity of the approach. In the experimental group the share of pupils displaying a high level of conscious attitude toward nature rose from 14 per cent at the beginning of the school year to 37 per cent at its end, while the share at the low level fell from 41 per cent to 16 per cent. In the control group the corresponding changes were marginal and lay within the range of random variation. Qualitative observations point in the same direction: pupils of the experimental group more frequently initiated environmental actions themselves, referred to ecological arguments in discussions unrelated to lessons, and demonstrated transfer of the formed attitude to new objects — behaviour that standard instruction had not produced. It should be noted that the effect was weakest where teachers reduced the situation to a rhetorical question and immediately supplied the expected answer; this confirms that the openness of the outcome is not a decorative feature but the operative mechanism of the method.

Conclusion

The study confirms that a conscious attitude toward nature is formed not by the volume of environmental information delivered to pupils but by the quality of the experiences through which that information is appropriated. The educational situation, when it is deliberately designed, sequenced, and followed by reflection, provides exactly such experience: it unites knowledge, emotion, and action within a single pedagogical event. The improved methodology proposed here — a typology of four situation types, a five-stage model of their application, and a set of didactic conditions for their effectiveness — gives the teacher a practical instrument that can be integrated into the existing curriculum without structural changes to it.

Further research may proceed in several directions: adapting the situational methodology to primary school age, where the emotional component dominates; studying the cumulative effect of coordinated situational work across several subjects; and developing digital simulations that extend the range of accessible ecological situations beyond the local environment. What remains constant across these directions is the central conclusion of the present work: nature protection begins not with prohibition and not with information, but with a personally experienced choice — and it is the school's task to organise that choice pedagogically.

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