

RESEARCH ARTICLE

Diagnostic Criteria, Indicators and Levels for Assessing the Formation of a Moral Worldview in Digital-Generation Students

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Abstract

The article elaborates a diagnostic apparatus for assessing the formation of a moral worldview in digital-generation students. On the basis of the three-component structure of the moral worldview, three criteria, nine indicators and a corresponding system of diagnostic methods are established; three levels of formation — reproductive, reconstructive and creative — are characterised with respect to each component. The requirements for ensuring the validity and reliability of the apparatus, together with the procedure of measurement, are substantiated. The article is methodological in character: it presents the design of the diagnostic apparatus, while its empirical approbation is designated as the subsequent stage of the research.

KEY WORDS

Moral worldview, diagnostics, criterion, indicator, level of formation, pedagogical measurement, validity, reliability, history of pedagogical doctrines, national pedagogical heritage.

INTRODUCTION

Demonstrating the effectiveness of any pedagogical innovation in the sphere of upbringing depends upon the possibility of measuring its outcome. In the sphere of moral education, however, it is precisely this point that remains the weakest: studies frequently advance the general conclusion that “the level of moral upbringing has risen”, yet fail to indicate what exactly has been measured, according to which criteria and with what degree of reliability. Under such conditions the results obtained are not comparable and lose their scientific value. For this reason the elaboration of a precise system of criteria, indicators and levels for assessing the formation of a moral worldview constitutes an independent scientific task. The normative basis of the problem has been established: the document adopted within the framework of the priority directions of the country's development through 2030 designates the formation of a high-quality education system as a strategic task, while the

Law “On Education” defines the legal foundation of relations in the sphere of education. The assessment of educational quality, in turn, can be objective only on the basis of measurable outcomes. The aim of the article is to elaborate a diagnostic apparatus for assessing the formation of a moral worldview in digital-generation students. The tasks are as follows: to substantiate a system of criteria and indicators; to determine a diagnostic method for each indicator; to characterise the levels of formation; and to establish the requirements for ensuring the validity and reliability of the apparatus.

LITERATURE REVIEW AND METHODOLOGY

The idea of assessing the outcome of upbringing is likewise present in the history of national pedagogical doctrines. In his treatise “The Virtuous City”, Abu Nasr al-Farabi distinguished the degrees to which virtue is manifested and assessed it in

the unity of knowledge, aspiration and action. Abdulla Avloniy, in "The Turkic Gulistan, or Morality", classified moral qualities and presented each of them as a separate instructional unit; this constitutes the earliest experience within national pedagogy of dividing educative content into measurable units. The methodological foundation for designing the diagnostic apparatus is constituted by the logic elaborated by R. Tyler: the educational purpose, the learning experience and the assessment must be mutually consistent. In other words, the indicator to be measured must correspond precisely to the outcome specified in the purpose. In expressing the purpose in measurable form, the taxonomy of L. Anderson and D. Krathwohl is applied: objectives are classified along two dimensions, namely the type of knowledge and the cognitive process.

Several approaches to measurement in the moral domain have taken shape in international practice. L. Kohlberg employed the method of dilemma-based interview in order to determine the level of moral judgement. J. Rest, for his part, standardised this approach, elaborated an instrument for measuring moral judgement and substantiated a four-component model of moral conduct. T. Lickona conceived of character in the unity of moral knowing, moral feeling and moral action; this tripartite structure provides the basis for the

system of criteria. In determining the dimension specific to history education, the foundational concepts identified by P. Seixas and T. Morton were taken into account.

Contemporary assessment practice imposes strict requirements upon the quality of the measurement instrument. In the study conducted by J. Breakstone and co-authors with the participation of 3,446 students, the instruments were piloted in advance and a level of agreement among raters was ensured for the open-response tasks. Internal consistency is assessed by means of the alpha coefficient proposed by L.J. Cronbach; in practice a value above 0.7 is customarily regarded as acceptable, although this threshold constitutes not a strict norm but a widely held convention. The research methodology comprised theoretical analysis, retrospective analysis of sources relating to the history of pedagogical doctrines, criterion-based modelling and the systemic-structural approach.

DISCUSSION AND RESULTS

The first result of the research consists in the elaboration of a system of criteria, indicators and diagnostic methods. On the basis of the three-component structure of the moral worldview, three criteria and nine indicators were determined (see Table 1).

Table 1. Criteria, indicators and diagnostic methods of the formation of a moral worldview

Component	Criterion	Indicators	Diagnostic method
Cognitive	Knowledge of moral concepts and the capacity to reason on their basis	1) scope and precision of concepts; 2) distinguishing moral from conventional norms; 3) substantiating a judgement with evidence	Test; historical situational task; written analysis
Emotional-axiological	Personal attitude towards values and emotional response	1) level of empathy; 2) stability of the hierarchy of values; 3) response to injustice	Value orientations inventory; analysis of the discussion protocol
Behavioural-practical	Manifestation of knowledge and attitudes in actual conduct	1) decision in a situation of choice; 2) assumption of responsibility; 3) stability of conduct	Long-term pedagogical observation; expert assessment; analysis of the products of activity

The most complex part of Table 1 relates to the third component. Measuring the cognitive component by means of tests and written tasks is comparatively straightforward; standardised methodologies exist for the emotional-axiological component. The behavioural-practical component, by

contrast, cannot be measured reliably by means of a questionnaire, since the respondent records not actual conduct but the socially approved answer. For this reason the combined application of long-term pedagogical observation, expert assessment and analysis of the products of activity is

envisaged for this component. The mutual consistency of data obtained from three independent sources increases the reliability of the result. The second result of the research

consists in the characterisation of the levels of formation. Three levels were identified, and each of them was described with respect to all three components (see Table 2).

Table 2. Levels of formation of a moral worldview

Level	Cognitive component	Emotional-axiological component	Behavioural-practical component
Low (reproductive)	Concepts are fragmentary and remain at the level of definition; judgement is not substantiated	Evaluation depends upon external control; empathy varies according to the situation	Conduct is maintained only in the presence of supervision; responsibility is attributed to another person
Intermediate (reconstructive)	Concepts are systematised; judgement is substantiated, but relies upon a single source	A hierarchy of values has been formed, but alters under group influence	A discrepancy persists between knowledge and conduct
High (creative)	Views are internally consistent; alternative positions are taken into account	Values are stable; an independent response to injustice is given	Conduct is stable across differing situations; responsibility is assumed for the consequences of decisions

In the characterisation of the levels in Table 2, stability and independence were adopted as the supporting criteria. At the low level both evaluation and conduct depend upon external factors; at the intermediate level independence appears in the cognitive domain but is not sustained at the level of conduct; at the high level independence is manifested in all three components. It is precisely the divergence between independence in the cognitive domain and independence at the level of conduct — the condition of “knowing but not doing” — that constitutes the most frequently encountered problem of moral education, and it is explained by the weakness of the motivational component in J. Rest’s model. The third result of the research consists in establishing the requirements for ensuring the validity and reliability of the apparatus. In order to ensure content validity, each task must be linked precisely to a particular indicator, and this linkage must be confirmed by independent experts. For construct validity, the correlations among the indicators are analysed: indicators within a single component are expected to be more strongly interrelated. Internal consistency is assessed by means of the alpha coefficient. For open-response tasks, a rubric setting out the assessment criteria in detail is compiled, at least two raters work independently, and the level of agreement between them is calculated.

The fourth result of the research consists in substantiating the

procedure of measurement. Measurement is carried out in three stages: a baseline assessment before the commencement of the experiment, an intermediate assessment at the mid-point of the process, and a final assessment upon its completion. Three-point measurement is preferable to two-point measurement, since it reveals not merely the direction of change but its dynamics. Observation with respect to the behavioural-practical component, for its part, is conducted continuously throughout the entire period and is recorded in an observation sheet. In discussing the results obtained, three limitations must be openly acknowledged. First, the apparatus proposed is thus far a theoretical design, and its validity and reliability indicators have not been established empirically; no measurement results are adduced in the article. Second, the measurement of the behavioural-practical component relies in any event in part upon subjective assessment, and this limitation cannot be eliminated entirely. Third, the formation of a moral worldview is a long-term process, and changes occurring within a single academic year may be interpreted only with caution.

CONCLUSION

The methodological research conducted has made it possible to arrive at the following conclusions. First, the assessment of the formation of a moral worldview may be carried out on the

basis of three criteria and nine indicators; an independent diagnostic method must be determined for each indicator. Second, the measurement of the behavioural-practical component by means of a questionnaire does not yield a reliable result; it requires the combined application of long-term observation, expert assessment and analysis of the products of activity. Third, the three levels of formation are distinguished on the basis of the criteria of stability and independence; the condition of "knowing but not doing" constitutes the typical marker of the intermediate level. Fourth, the scientific value of the apparatus depends upon the procedure for confirming its validity and reliability; this procedure comprises expert assessment, correlational analysis, calculation of internal consistency and determination of inter-rater agreement.

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