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THE THEORY OF PHYSICAL EDUCATION AND SPORTS TRAINING: A PROBLEM OF DIVERGENT AIMS

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Abstract. This article examines the relation between the theory of physical education and the theory of sports training, which share a biological foundation and a technical vocabulary while pursuing aims that diverge at a decisive point. Sports training operates upon a continuously self-selecting population, from which those who respond poorly withdraw, and may therefore optimise for peak performance at a determinate moment; physical education operates upon the whole population compulsorily, cannot select, and must optimise for the probability of lifelong activity across the entire distribution of capacity. The author substantiates a three-level analysis distinguishing what the two theories genuinely share from what they cannot share, identifies the transfer error by which the didactics of selection are applied where selection is impossible, and proposes for physical education the criterion of participation-preserving load, under which a load is correct only if it produces adaptation and leaves the willingness to return intact. The polemic between L.P. Matveyev and Yu.V. Verkhoshansky concerning periodisation is subjected to critical examination.

Keywords: theory of physical education, sports training, adaptation, periodisation, selection, motivational climate, achievement goal orientation, participation-preserving load, lifelong physical activity, normative testing, sportisation.

INTRODUCTION

The theory of physical education and the theory of sports training are ordinarily presented as two branches of a single discipline. They are taught in the same faculties, from textbooks sharing their opening chapters, and employ a common vocabulary: load and recovery, adaptation, volume and intensity, periodisation, motor qualities. The common ground is genuine and rests upon a secure biological foundation. H. Selye established that the organism responds to any sufficient stressor through a sequence of alarm, resistance and, where the stressor persists beyond capacity, exhaustion; the models of supercompensation elaborated within the Soviet school applied this to muscular work and produced the principle governing both fields, that a functional gain arises not from the load but from the recovery that follows it. From this shared foundation it is commonly inferred that the two theories differ only in degree — that sports training is physical education intensified among more capable participants. The present study proceeds from the contrary thesis: they diverge at a point that is structural rather than quantitative, and the divergence is concealed precisely by the vocabulary they share. The point of divergence is selection. Sports training operates upon a continuously filtered population: participation is voluntary, and those who respond poorly, dislike competition or are repeatedly defeated withdraw of their own accord, so that the population remaining under the theory's jurisdiction is progressively enriched in those for whom the theory works. This is not a defect but a condition of its validity: it may optimise boldly for peak performance because the cost of a method suiting only part of the distribution is borne by people who have already left. Physical education stands under the opposite condition. Its population is the whole of a school or course, assembled compulsorily and including those who respond least and enjoy least. It cannot filter, and when a pupil

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withdraws in spirit while remaining in the register, the system has not shed a non-responder but failed one. The optimisation target is correspondingly different: not performance at a determinate moment but the probability that the person will still be active in twenty years, measured across the whole distribution and weighted towards its lower end, where the public-health consequence of inactivity is concentrated. What follows is the characteristic error of the field, the transfer error: because the apparatus available to the physical education teacher is that of sports training, in which he was himself instructed, the didactics of selection are applied where selection is impossible. Its manifestations are familiar — attainment assessed against external normative standards rather than individual progress, performance conducted publicly before the class, early specialisation in a narrow set of competitive forms, loads prescribed to the mean of a widely dispersed group. For the upper part of the distribution these are harmless or stimulating; for the lower part they constitute a repeated public demonstration of inferiority, and the predictable result is avoidance of physical activity in adulthood by precisely the group for whom it would do most good. That this is a mechanism rather than an impression is established by achievement goal theory, which distinguishes a task-involving climate, where competence is judged against one's own prior performance, from an ego-involving climate, where it is judged against others. The tradition associated with J. Nicholls and J. Duda has shown that the second sustains effort among those who can win and withdraws it from those who cannot, since under normative comparison the only reliable way for a weaker performer to protect self-worth is to stop trying visibly. A lesson built upon the didactics of competitive sport is such a climate by construction. For Uzbekistan these questions bear directly upon policy. The system of mass youth sport, the three-stage sports games and the expansion of sporting infrastructure have raised participation and produced competitive results, while for most schoolchildren the physical education lesson remains the only guaranteed contact with organised physical activity. The high proportion of young people makes the lifelong effect of that contact a matter of public health rather than of pedagogy alone, and the pursuit of competitive achievement and mass health through a single theoretical apparatus makes the distinction between the two tasks practically consequential. The scholarly problem arises accordingly from the application of one theory to two tasks whose structures are opposed, and from the absence, within the theory of physical education, of an optimisation criterion of its own. The aim of the article is to establish the relation between the two theories and to substantiate the criterion proper to physical education. The tasks were to determine what they genuinely share and at what level; to establish the parameters on which they diverge; to identify the manifestations of the transfer error; and to formulate the criterion and indicators appropriate to physical education. The novelty consists in the three-level analysis separating the shared biological foundation from the unshared didactic and teleological levels, in the formulation of the transfer error, and in the criterion of participation-preserving load.

LITERATURE REVIEW

Within Uzbek scholarship the foundation of the present study is supplied by the work of T.S. Usmonxo‘jayev on the physical education of schoolchildren and on the use of games in instruction. His contribution lies in treating the game as the principal didactic form of school physical education rather than a recreational supplement to drill, and in showing that the educative effect of the lesson depends upon the participation of every pupil rather than the attainment of the most capable. This bears directly upon the argument advanced here, since the game, unlike the measured test, distributes activity across the whole group and does not require competence to be displayed individually before

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an audience. The second pillar of the theoretical framework is provided by the research of F.A. Kerimov on the theory and methodology of sport and on the organisation of scientific research within it. The author elaborates the apparatus by which training effects are established — the control of load parameters, the measurement of response, the design of pedagogical experiment — and insists upon individualisation according to the response of the particular athlete. This requirement is of consequence here in a way easily overlooked: it is formulated for a population already selected, and its transfer to an unselected group raises difficulties the training literature does not address. The value and institutional dimensions of the question are illuminated by contemporary research: S. Ergashbaev demonstrates that stable orientations are formed through sustained processes of continuous education rather than isolated influences and, in a further study, singles out independent critical reflection as a central educational outcome, while M.M. Mirzaolimjon og‘li and E. Shohbozbek disclose the institutional context of educational reform. Several international and Russian-language traditions bear upon the problem. H. Selye established the general adaptation syndrome upon which the theory of training load rests; L.P. Matveyev elaborated the classical theory of periodisation, and Yu.V. Verkhoshansky advanced against it the conception of concentrated unidirectional loading; V.K. Balsevich and L.I. Lubysheva proposed the sports-oriented reorganisation of physical education; J. Nicholls and J. Duda established the distinction between task-involving and ego-involving motivational climates and its consequences for persistence. The gap addressed here is the absence of an account specifying where the two theories may legitimately be joined and where they may not.

RESEARCH METHODOLOGY

The methodological foundation of the study is constituted by the systemic approach, which made it possible to treat physical education and sports training as two systems sharing certain subsystems while differing in their governing aims, so that the legitimacy of transferring an element from one to the other could be examined level by level rather than assumed; within this framework the activity approach established that the object of both theories is the organised motor activity of the person rather than the motor quality considered in abstraction, and the axiological approach supplied the means of comparing their aims. The theoretical analysis of the literature of physical culture, sports science, physiology and educational psychology reconstructed the conceptions of adaptation, load, periodisation and motivational climate. The comparative method juxtaposed the two theories across their conceptual apparatus, populations and criteria of success, while the historical-genetic method traced how the didactics of sport came to occupy the school lesson. Content analysis was applied to curricula, programmes and assessment regulations in physical education in order to determine the proportion of normative, comparative and individually referenced assessment. Pedagogical observation of lessons was used to record the forms in which performance is displayed and the distribution of active time across the group. Questioning of pupils, students and teachers established attitudes towards the lesson and the reported reasons for disengagement, with particular attention to the lower part of the attainment distribution. Structural-functional analysis yielded the three-level model and the parameters of divergence, pedagogical modelling produced the criterion and indicators, and expert assessment verified them. Elements of the pedagogical experiment, organised in ascertaining, formative and control stages, served to examine the proposed arrangements, and methods of mathematical statistics established the significance of observed differences. General scientific

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procedures of analysis and synthesis, induction and deduction, abstraction, generalisation and modelling were applied at every stage and secured the coherence of the conclusions.

RESULTS

The relation between the two theories must be examined at three levels, differing in the degree to which transfer is legitimate. At the biological level they genuinely coincide: the general adaptation syndrome, the dependence of functional gain upon recovery rather than load alone, the specificity of adaptation to the stimulus, and the wide variability of individual response are properties of the organism and hold irrespective of the aim. At the didactic level the coincidence is partial: methods of instruction in motor action, of correcting technique and of organising practice transfer with qualification, but methods of selection, ranking and concentrating resources upon the most responsive do not, since they presuppose a population that may be reduced. At the teleological level there is no coincidence, and transfer at this level is the source of the difficulties examined here. A second result specifies four parameters of divergence. The population of sports training is self-selected and continuously filtered, that of physical education compulsory and complete. The criterion of success in the first is performance at a determinate competitive moment, in the second the probability of continued activity across a lifetime. The time horizon of the first is the macrocycle, of the second the lifespan. The treatment of poor responders differs most sharply: in sport their departure is a normal and even desirable outcome, concentrating resources upon those who will benefit, whereas in physical education it is the characteristic form of failure. A third result identifies the transfer error and its four manifestations in school practice — assessment against external normative standards rather than individual progress, the public display of individual performance, early specialisation in a narrow range of competitive forms, and load prescribed to the mean of a widely dispersed group — together with the mechanism of their effect, the construction of an ego-involving climate in which visible withdrawal of effort becomes the weaker performer's means of protecting self-worth. From these follows the central result, the criterion of participation-preserving load: in physical education a load is correct only when it satisfies two conditions at once, producing a measurable adaptive effect and leaving intact the pupil's willingness to return. A load satisfying the first alone, however physiologically sound, is incorrect within this theory, which optimises over a horizon the single lesson does not bound. Three consequences follow: assessment must be referenced to the pupil's own prior performance rather than a normative table; the display of performance must not rank the group publicly; and breadth of motor experience must be preferred to early specialisation, since the activity a person maintains in adulthood is rarely the one in which he was ranked at school. Finally, four indicators were established: the proportion of lesson time in which every pupil is active rather than waiting; the retention of voluntary participation in optional forms; the gradient of attitude across the attainment distribution, which should be flat; and individually referenced progress against the pupil's own baseline.

DISCUSSION

The results require to be situated within the principal controversy of the theory of training, the dispute between L.P. Matveyev and Yu.V. Verkhoshansky concerning periodisation. Matveyev elaborated, upon the material of the athletics of his period, the classical model in which the training year is divided into preparatory, competitive and transitional periods, the several motor qualities are

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developed in parallel with shifting emphasis, and volume is progressively converted into intensity as the principal competition approaches. The model is built upon the phase structure of adaptation, scheduling load and recovery so that heightened capacity coincides with the date on which performance is required; its coherence and pedagogical convenience account for its long dominance in the Russian-language literature and, through translation, in much of the international. Verkhoshansky objected from the changed conditions of elite sport. The classical model, he argued, was derived from athletes who competed rarely and trained at volumes since far exceeded; where competitions are frequent and loads high, the parallel development of several qualities delivers conflicting adaptive signals, each too dilute to produce a substantial response. His alternative concentrates unidirectional loads within sequential blocks, each imposing one dominant demand, the delayed effect of a concentrated phase being realised in the phase that follows. The disagreement concerns whether adaptation is better served by simultaneous or sequential development, and it remains unsettled. What deserves notice here is a feature the two positions share. Both argue about how to maximise performance in an athlete already selected, already motivated, who will continue training irrespective of which model is adopted; neither considers that a participant might simply stop. The population is assumed, and because it is assumed it disappears from the theory. This is legitimate within sports training, where the assumption holds, and it is the point at which the theory ceases to be transferable, since in physical education the continued presence of the participant is not a premise but the outcome to be secured. Two further positions complete the picture. V.K. Balsevich and L.I. Lubysheva proposed to resolve the weakness of school physical education by importing the organisational forms of sport — groups constituted by interest and ability, coaching rather than class instruction, a longer and more systematic cycle — and the proposal is serious, addressing the real deficiency of the single undifferentiated lesson. Its risk is the one identified above: grouping by ability reproduces within the school the selection mechanism whose absence defines the task, and unless the lower groups are protected from normative comparison the reorganisation will accelerate the withdrawal it was meant to prevent. The achievement goal tradition supplies what the training literature does not — an account of the conditions under which participants remain — and it is upon this rather than upon periodisation that a theory of physical education must be built. The conclusion is not that the theory of sports training is mistaken, but that it is complete only for the case in which selection has already occurred, and that physical education requires a theory of its own beginning from the opposite premise.

CONCLUSION

The study has shown that the two theories share a biological foundation and a technical vocabulary while diverging at a structural point the shared vocabulary conceals. Sports training operates upon a continuously self-selecting population and may therefore optimise for peak performance at a determinate moment; physical education operates upon the whole population compulsorily and must optimise for the probability of lifelong activity across the entire distribution of capacity. First, a three-level analysis was substantiated: at the biological level the theories coincide; at the didactic level partially, methods of instruction transferring while methods of selection and ranking do not; at the teleological level not at all. Second, four parameters of divergence were established — the population, the criterion of success, the time horizon, and the treatment of poor responders, whose departure is a normal outcome in sport and the characteristic form of failure in physical education. Third, the transfer error was identified, by which the didactics of selection are applied where selection

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is impossible, together with the mechanism of its effect: an ego-involving climate in which visible withdrawal of effort becomes the weaker performer's means of protecting self-worth. Fourth, the criterion of participation-preserving load was formulated: a load is correct only when it both produces a measurable adaptive effect and leaves intact the willingness to return. Fifth, indicators appropriate to this criterion were established, among which the gradient of attitude across the attainment distribution — flat in a sound programme — proved the most diagnostic, since it measures what normative assessment conceals. These conclusions may be drawn upon in the preparation of physical education teachers and in the design of school programmes. Further research might address the longitudinal relation between the motivational climate of school lessons and physical activity in adulthood.

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