

## **PHYSICAL EDUCATION BETWEEN THEORY AND PRAXIS**

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### **Abstract**

In the current study we analyse relations between sciences dealing with the transfer of knowledge in physical education: pedagogy, didactics, pedagogical psychology, applied (subject) didactics and methodology. We formulate a hypothesis that school sport should be understood in the sense of psycho-motor learning and development of motor and functional abilities, a taxing exercise which can help the child in its turbulent development. Because of the strong emotions and socializational effects, we can call motor learning also emotional and social learning. In the word-linkage "sports (physical) education", we can leave out the word education, since the didactics of sport is primarily sport, which contributes hugely to the formation of a holistic personality through the hidden curriculum.

Keywords: sport, school, child, motor learning

## **ŠPORTNA VZGOJA MED TEORIJO IN PRAKSO**

### **Izvilleček**

V študiji analiziramo relacije med vedami, ki se ukvarjajo s prenosom znanja pri pouku športa: pedagogiko, didaktiko, pedagoško psihologijo, predmetno didaktiko in metodiko. Postavljamo tezo, da je potrebno šolski šport razumeti v pomenu psihomotoričnega učenja in razvijanja motoričnih in funkcionalnih sposobnosti, kar predstavlja naporno vadenje, ki lahko pomaga otroku pri burnem razvoju. Zaradi prisotnosti močnih emocij in socializacijskih učinkov imenujemo motorično učenje tudi emocionalno in socialno učenje. V besedni vezavi športna vzgoja lahko besedo vzgoja izpustimo, saj je didaktika športa najprej šport, ki s pomočjo prikritega kurikula veliko prispeva k vzgoji celovite osebnosti.

Ključne besede: šport, šola, otrok, motorično učenje

### **General and subject didactics**

Subject didactics can be methodically efficient only when the transfer of knowledge proceeds by employing general didactics and current pedagogical psychology cognitions reciprocally. It is a matter of the axiom of practice inefficiency without theory, which Leonardo da Vinci expressed with the parable of "... a steersman operating the steering wheel of the vessel« (Jelavić, 1998, p. 9).

For long years didactics was mainly focused on the teaching context. Nowadays the child is put in its centre. This causes essential changes in the relation between didactics and subject didactics. The entire didactic process proceeded from teaching to teaching-learning. In this way general didactics approached the subject didactics, which already

had to work didactically and act psychologically. To put the child in the centre of didactical activity means that general didactic has to confront with results of its own interventions in the subject of learning when verifying its hypothesis. The authentic communicational process in upbringing and education actually started when the second part of the communicational learning canal, i.e. a child with its reactions, got its required value. In such a manner general didactics is no longer only a teaching process, but rather a theoretically considered teaching-learning process, where lesson (and education) issues reflexively affect on didactical measures.

The teaching-learning concept is a matter of contemporary didactics. The consequence is the change in pupil's behaviour (Jelavić, 1998, p. 14). In this process the subject starts to change its personality, then the influences are not only informational (in physical education also energetic) but also educational and socializational. That is why didactics is a part of pedagogy when it takes part in forming the personality of a young person through upbringing and education. Kratochwil (1993, p. 25) says that a human being is a person in the anthropological aspect of education. Jurman (1999, p. 123) believes that through education we are socializing child's temper and character (p.145) and that we are changing its abilities (p. 147). In this he unambiguously says (p. 137) that the only proper education is the anthropological one and not the other two, i.e. pedagogy of capital and ideology.

The foundation of anthropological education is the culture of a person's community and his dispositions. The culture's nature here are its contents and forms of activity and an individual's personal dispositions are the goal of this activity (p. 137). Anthropological education is according to its activity firstly oriented on the child. It uses its brain to think (Homo Sapiens) and therefore it has to be educated. It also gathers the whole spectrum of human evolution, creative period and involution. Kratochwil (1993, p. 31) sees anthropological education through co-existential dimensions of learning and playing (Homo-Ludens), work (Homo Faber), socio-political activity (Homo Politicus), love (Homo Amans) and cessation (Homo Morticus).

In the educational process, work of great pretension with multidimensional extensions, there are many communication noises or rather interruptions of this process (Jelavić, 1999, p. 12). They can be noticed in time only if the child is actually the centre of the lesson. The basic noise is a consequence of the fact that teaching can be done only by an adult who socializes, i.e. alters the child with his or her (didactic) procedures. However, this is always a conflict-stressful situation because the subject loses a part of its autonomy. These conflicts can be minimized by the fact that the teacher loves the child. Without this feeling it is impossible to be a good teacher. Erih Fromm (1979) said it this way: "It is teaching of an adult, who loves children, that matters" (Gudjons and others, 1994, p. 7).

There is no didactics as such. The teaching-learning process directs more didactical theories or methods. For sports didactics Moeller's models are very important (Gudjons and co-authors, p. 77), which define didactics as a curriculum theory. Other important models are models according to Winkel (p. 95), who sees didactics as a critical theory of learning communication, and models according to von Cube (p. 59), who defined

didactics as a cybernetic-informational theory. What these models have in common is that the teaching-learning processes have to be planned (to set reasonable defined goals and organisation) and analyzed with the help of effect control, i.e. didactics. The curriculum theory is the closest to current sports curricula. At this Moeller defines curriculum as a plan for formation and implementation of learning units. However, it includes goals, organization and effect control (Jurman, 1998, p. 125).

Didactics (especially methodology) is interested in how to present the content to the pupil and how to teach, respectively; whereas the curriculum is oriented more on the content selection and on learning. Curriculum originally means process and in the field of teaching it stands for the teaching-learning process, consequently a method or rational process oriented on the educational process. Meyer (1994, p. 47) comprehends this as teaching methods which form pupils' learning paths and communication between teacher and pupil in social interactions. The curriculum is an instrument to the cognitive process. It is an activity performed by the teacher and pupil in order to realize teaching goals. In Europe the terms plan and teaching programme are used; however, the meaning is broader as the term curriculum.

Peterssen (1989, p. 47) defines differences between general and subject didactics as following:

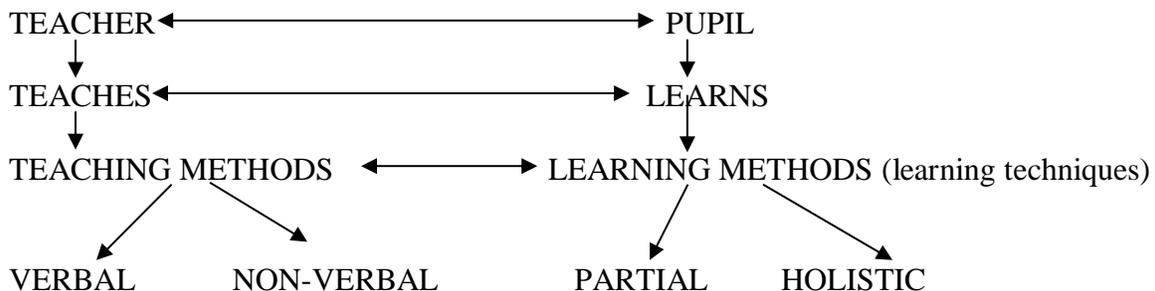
1. Subject didactics is a scientific discipline about uprising and education in concrete special field. It has to operate according to scientific legitimacy of the special field and also to the general didactics. "It is the theory of teaching and learning in concrete special field", as Peteressen quotes Kerstiels (1972). That is the essence of subject didactics because firstly there is the special field (physics didactics is e.g. firstly physics), which because of teaching goals takes effect on the pupil with the help of didactics legitimacy (teaching) and pedagogic psychology (learning).
2. Subject didactics is oriented on two fields: school field and legitimacy of its field. It has to follow the legitimacy of its special field and at the same time it has to descent the academic frame because the latter do not belong into school.
3. Subject didactics has to be considered as a result of scientifically considered processes or handling, which are indicated as communication between the teacher and pupil. Didactics and pedagogic psychology are just instruments which help the special field to come closer to the child.

### **Didactics and methodology**

Didactics is theory of teaching and learning (Winkel, 1994, p. 97) and literally it means the »art of teaching« (Rosić, 2000, p. 8), while methodology's only interest in teaching. Therefore methodology is the key for successful teaching. Schulz (1968) and Muecke (1967, quoted from Peterssen, 1989, p.16) define didactics as tuition science (teaching). The understand tuition as a complex communicational process among tuition factors: teacher, pupil and contents, and at the same time among broader tuition factors, which are defined in the school curriculum, parents' expectations and social-cultural environment from which the child originates from.

Beginnings of didactics go back to year 1613 when Ratke formulated the educational field, which should deal with “teaching skills”. Didactics was termed after the Greek word *didaskein*, which means *to teach* (Kristan, 1994, p. 25). This term was finally put into force in *Didactica magna* by Komensky in 1657.

Didactics is a basic science about teaching. Therefore in Slovene it also stands for tuition theory, which studies learning processes from the teaching and educational point of view. “It is a pedagogical discipline that studies tuition tasks, contents and its organisation, cooperation methods between the teacher and the pupil” (Leksikon Slovenije, 1988, quoted after Kristan, 1994, p. 25). Just this cooperation is the foundation of the learning-communicational system because the teacher teaches knowledge from a specific field, the pupil learns it and gives return information on extent, intensity and depth of learnt information. This can be expressed by the following model:



What is the relation between didactics and methodology? Many define didactics as general methodology. In this way didactics is actually theory of methodology. Only special methodology represents the operational procedure of teaching, respectively the methodological procedure by which knowledge is given to the pupil. General methodology explains contents, methods, forms and techniques of teacher’s work at a concrete subject, while special methodology carries theoretical legitimacy on practice by the usage of learning communication. Special methodology operates with concrete contents in concrete educational process.

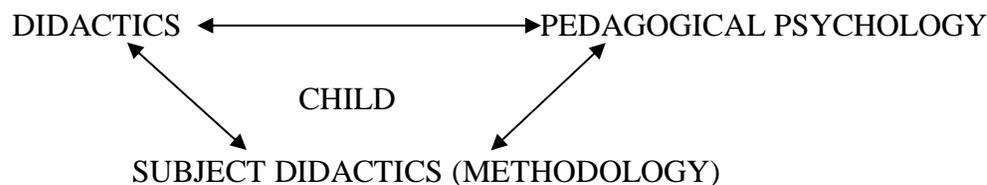
Methodology originates from the word method (Jelavić, 1994, p. 11), which means the way to the goal that can be achieved only by concrete contents of a certain field. The relation didactics-subject didactics-methodology indicates only to the tuition’s educational point of view and it is called **didactic direction of knowledge transfer**. It is based on positivistic cognitive theory, respectively on rational thinking (Jurman, 1999, p. 101; see also Kramar, 1992, p. 33). This one is not suitable because rational thinking is not characteristic for a child till the pre-puberty period. However, **methodical direction of knowledge** (p. 104) means the exchange of positivistic cognitive process with the structuralism, which is based on intuition that enables the child to get to cognition quicker and easier. The child can “see” the cognition and not prove (yet). Only adults can comprehend knowledge as cognition.

## Didactics and pedagogical psychology

Subject didactics are to be found within this bending. That is why these relations are very important for successful work in practice. Pedagogical (school) psychology (Musek, 1999, p. 129) carries psychology cognitions to the field of upbringing, education and schooling. It studies factors that have influence on learning efficiency (e.g. learning transfer in Rajtmajer, 1994, p. 97 and 1999, p. 140) and on relations between participants in tuition. Contemporary didactics put the pupil in the centre of its activity and became because of that science of teaching and learning. Therefore in a part of its subject it coincides with pedagogical psychology. Both sciences had a fixed line once, but not anymore. This joint subject brings some problems, for psychologists think that educationalists deal too much with psychology. However, this redundancy is useful within subject didactics (yet it can blur some things).

Teaching young children means literally learning and in general sense changing personality. “If we want to change, we need to know the nature of what we want to change” (Stevanović, 1970, p. 4). Therefore psychology, respectively its useful discipline of school psychology, is irreplaceable.

It was already said that teaching is because of the leading part of an adult full of conflict situations. More conflicts are caused by the modern school, which is and will be more and more productively oriented (Medveš, 1992, p. 12; Kramar, 2011, p. 35). If we add the fact that it is not necessary that the educational concept of knowledge transfer is suitable, then it is not easy for the child in school. Therefore it is necessary to include school psychology, which deals with the learning child who has above stated problems and definitely some other developmental problems that generate pupil’s conflicts towards institutional education (Skowronek, 1968, p. 18). The role of both fundamental sciences and subject didactics can be illustrated by the following model:



The well known didactic triangle among tuition factors is getting a different image according to sciences that deal with knowledge transfer. At this the nature of proceedings is of great importance because it has to be preventively adjusted. In the meaning of *must* the measures of didactics and subject didactics are repressive. The educational process is from the point of view of both didactics, respectively special methodology tiresome or at least very pretentious and therefore conflicting.

That is why an educationalist (teacher) cannot act “curative”. After the teacher had tortured the child, the child cannot trust him anymore. One cannot have two roles at the same time – teacher (torturer) and healer. Here pedagogical psychology is irreplaceable in its meaning “that it does not allow anticipation of too big learning steps” (Rajtmajer, 1986, p. 97), which enables that the recognition proceeds within the corresponding

relation among processes of assimilation and accommodation. By this the encroachment upon the child will stay within borders of psychological (equilibrium) and biological (homeostasis) balance (Labinowicz, 1989; Rajtmajer, 1994, p. 98). However, sports didactics has at hand also sports psychology. A lot of its recognitions can be used in school sports practice; i.e. field of emotions, role of motor transfer, psychological basics of motor learning, developing motor abilities, especially psycho-motor coordination. Hahmann (1990, p. 157) quotes the following sub-systems of coordination: reaction abilities, kinesthetic differentiation, spatial orientation and stability of balance (similarly Strel/Šturm, Rajtmajer, Planinšec, Videmšek/Cemič and others according to Rajtmajer, 1997-a). All this can be connected to development of bodily-kinesthetic and spatial intelligence (Gardner, 1995). Do not teach plain movements which cause monotonous effects because of numerous iterations of the same movement.

For sports didactic nowadays the information about newest neurophysiological studies are very important. Those studies have been made by already mentioned Gardner and Goleman (1998) in Shapiro (1999) and many other studies that deal with experiential pedagogy (Krajncan, 1995, p. 33, Divjak-Zalokar, 1986).

### **Sports didactics between theory and practice**

Indicated analysis of relations between sciences that occupy with tuition presents also a theoretical frame of sports didactics. Many terminological problems could be simplified, if we would be able to say (according to the example that physics didactics is firstly physics and that it does not occupy with some a priori physical education) that sports didactics is simply school sport. Vodeb (1999, p. 33) says that the educational-socializational value of the hidden curriculum at sports didactics is high enough and usually positive because of which we could leave the word education out (see also Cankar, 1999, p. 22). Sports as subject would be simplified to processes of movement learning (see also Strel, 1999, p. 8; Rajtmajer, 1999-b, p. 14 and p. 140; Pišot, 1999, p. 136) and processes of motor and functional abilities development (Rajtmajer, 1997-a, 2000-b; Pišot, 1999). At sports didactics it is very clear: if the processes of motor learning and processes of developing sensory, motor and functional abilities are suitable, the goals will be clear, unequivocal and transparent, especially if they are defined in accordance with differentiation and individualization principles and considered as such when controlling (grading) learning-training processes. Everything else in sense of educational-socializational function will be done by the hidden curriculum.

Processes of teaching-learning will be included in plan number one and the child will be the centre of this process. Sport as subject would be more explicitly placed in the field of anthropological education: it would develop children's dispositions and contribute to the cultural development of an individual and the environment in which he or she lives and functions. Implicitly it would take effect on restoring Homo Ludens (we play less and less, Meyer, 1999, p. 345) and Homo Faber (we work physically less and less) and equilibrate current negative Homo Sapiens trends (sitting-thinking human being, Rajtmajer, 2000-b) who does not work physically enough.

Sport contents (exercises, means) are as operators of motor-learning processes and of developing multidimensional oriented abilities. They are based on physical (biomechanical) and biological legitimacy of the human structure and function and his psychosocial legitimacy. Each exercise (operator) that we offer to the child should firstly have biomechanical parameters (force, lever, types of muscles and joints movements), which are at the same time also manifesting parameters of human motions. Those parameters determine the structure of the methodical procedure, i.e. collection of logically settled exercises that are implicated by the principle of gradualness and adequacy of contents and procedures and the role of transfer.

Simple solutions have the strongest impact on science development. Therefore I see no reason within sportology and sports didactics for not naming its didactical part simply school sport.

### **Final thoughts**

Teaching and learning is in most school subjects full of stressful and conflict situations. Why should it be any different at sports? A child has to put a lot of effort in an exercise to perform it well. In sport there is beside the informational component also the energetic component, which is more important because it requires great physical effort (even when we are enjoying it) at overcoming obstacles, gravity, motor-learning, which requires more than one hundred repetitions of specific movement, developing motor abilities, especially physical strength, aerobic 5 to 15 minutes lasting running (Van Aaken, 1993, p. 91), hourly marches, swimming, developing abilities for skilful body and object manipulation (Gardner, 1995, p. 241), relays, elementary games, and competitive sport games. Sport at school is almost the only real physical work. Therefore let children sweat, getting tired, angry and happy. This is the preparation for the real life.

Psychomotor cognition process is oriented on younger children in sense of motor learning, which is continuous and conscious change of movement (Pečjak, 1986, p. 81, Rajtmajer, 1994, p. 14). It is based on the child's intuition and not on rational thinking. The training process at motor learning has its intellectual foundation (Gardner, 1995, p. 241), yet the essence of child's learning lies in intuition, which is emotional (emotional learning). A learning child is not interested in why and how; movement, associating with children of the same age and enjoying the game (irrespective of effort) is what really matters to the child. Transfer and emotions have an important role here. All this processes are regulated by the principle of epigenesis (child development is based on the already known), which implicates the principle of gradualness (from easy to difficult). Performance of motion exercises is based on biomechanical legitimacy.

Child being the centre of education means for sports pedagogics and didactics that it is impossible to give and lecture him knowledge and abilities (Jelavić, 1998, p. 9). Jelavić says it is the result of school programmes and child's personal relation towards contents and hard training. Training is the essence of motor learning and even more of developing

sensory, motor, and functional abilities. Training has on one hand characteristics of (not) serious physical work (game) and on the other hand it requires a bigger burden than instrumental, i.e. existential work. Methodical request of sports training is an effective and proper burden (dosage). However, the burden is during the majority of the lesson very big. Through this approach the hidden curriculum has an enormous (educational) effect on children. Therefore Cankar (1999, p. 23) is right when saying that it is necessary to draw (not just asking) the child into the process of hard training. Many children are not fond of it and see exercising as a burden. The restraint of the programme occurs here because all children of a certain group have to perform at least the minimal part.

One of the important negative factors that causes difficulties at carrying out the sport programme is today's reality: (too) **good life** (Schierz, 1994, p. 47). It pushes already the young pupils into passivity because good life is not in step with the hard training. Only pedagogics of experience can help here because it uses means of sport, especially in natural environment which offer "... specific perception of psychomotor conditions, which are because of deep, new, unusual, and even dangerous (crazy) experiences considered as unique and deep (Rajtmajer, Šport, 2000-a).

There is an interesting thesis in the field of movement games. Guenzel (1990, p. 1) exaggerates in the meaning of the game. He asserts that games are competitive and that we are living in times of games and a society which is led by games. This is an unrealistic perception of games, especially because the environment in the 90s, when the book was written, was similar to nowadays environment. Children stop to play too soon and adults do not play enough. That is why we are becoming real Homo sapiens (sitting-thinking human beings) instead of Homo Ludens (playful human beings). In the USA a child sits in front of the television or computer as much as a student in four years during lectures at the university. We must not forget to add the time that our child e.g. spends when additionally learning a foreign language or having tutoring. Physically he works very little.

To make my superior findings more understandable I have to add Groessing's (1999, p. 9) opinion. He quotes that the goal of physical education is developing sports culture. That is just a purpose and the real goal is training, i.e. learning how to move and developing abilities. Through the hidden curriculum among other things training brings up the culture of movement. This is possible only if the sports pedagogues, governesses and class teachers do their duty, i.e. carrying out the distinctively level divided sports programme on all children and youth schooling levels.

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