

Selected areas of functioning of adult former pupils impacted by various systems of education

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This paper concerns the question of whether former pupils who attended various models of primary school will differ in selected areas of functioning. Two groups participated in the study: adult former pupils of the Żak Proprietary Curricular Primary School [Autorska Szkoła Podstawowa Żak] (N=27) and former pupils of a traditional school (N=34). The respondents answered a series of questions about self-esteem, social skills, creative attitude, and self-efficacy. Former ASP Żak pupils scored higher in terms of creative attitude and self-efficacy. The study is a kind of evaluation of the school from the perspective of its primary function, which is the preparation for life in society. There is also a proposal of how to explore the prime mover of a school, and so the extent to which the school can determine the functioning of its former pupils.

KEYWORDS: teaching-learning process, constructivism, former pupil.

Psychological concepts of learning in school

In the early twentieth century, the behaviourist approach to learning dominated in the United States and then in Europe. In this approach, learning is the passive absorption of knowledge leading to planned and deliberate changes in the behaviour of an individual (Dumont, Istance and Benavides, 2013). In keeping with the principles of behavioural teaching, the school's task is to develop pupils by arbitrarily adopted, universal, and desired patterns, in accordance with specified instructions. The aim of accurately directing development is the adaptation of pupils to existing conditions. To do this, an individual's behaviour

is modelled using penalties to suppress or rewards to reinforce certain behaviours. The imposed content of education, facts and opinions are transferred to pupils in a so-called "teacher-centered" manner in the form of a teacher's monologue as unquestionable, unique, and right. Thus, the pupil learns that knowledge is unique, certain and unquestionable, as its only source is the textbook and the teacher. The teacher works in a directive way. He knows how to teach a lesson, which means that he knows the recipe for how to form the pupil, how to shape him according to predetermined rules. The school teaching-learning process, which is based on the assumptions of behaviourism, is called pseudo behaviourist teaching by D. Klus-Stańska (2000). The theory of behaviourism in school practice is deformed because the classroom is nothing like the test conditions in the behaviourists' laboratory. In the complex conditions of

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school learning, much more happens than in the controllable, measurable and plannable scenario or curriculum of the stimulus-response type. D. Klus-Stańska (2010) writes more on what is described as the deformation of the principles of behaviourism in educational practice.

In the latter part of the 20th century, there was a revolution in American psychology, the so-called cognitive revolution (Dumont, Istance and Benavides, 2013). Since then, attention has been directed towards cognitive psychology. The analysis of responses to stimuli was given up in favour of understanding the internal thought processes and structure of knowledge, which are the basis of behaviour. It turned out that pupils are not passive recipients of information, but that they actively construct their knowledge. Sources of constructivism, which is defined by cognitive psychologists as the process of creating a mental construction, are rooted in this way of thinking. This process is based on the encoding of sensory data in a special language, resulting in the translation of sensory inputs into mental data (Nęcka, 2008). Dorota Klus-Stańska (2000) is the main representative of this approach in the Polish theory of education. She emphasises that learning is not assimilation, acquisition, or readiness to receive information. In contrast, it consists of the active construction and reconstruction of meanings in the mind, based on an individual's existent knowledge, culture, and context of cognition.

Attention paid to the complexity of the structure of thought, the conditions of constructing knowledge in the mind, and the role of cognitive context has led to a new theoretical model of the school, a model with a different curriculum, methods, forms, and content of education, and different roles for the teacher and the pupil. Today, the vast majority of

academics speak in favour of the second model of school based on the principles of cognitive psychology and constructivism. This vision of education is still topical and the most desirable from the perspective of the needs of pupils (Klus-Stańska, 2000; Dylak, 2000; Wood, 2006; Lędzińska and Czerniawska, 2013).

Progressive Era studies

In the empirical school world, there is no clear dichotomy between the presented, opposing theoretical models. In practice, there is no school which is functioning in a pure, or extreme form, as presented by a particular theoretical model. The model which is more or less prevalent in a given school is what is noticeable (Janowski, 2002). The characteristics of the complex functioning of the school consist of the fact that its operation does not fit into any particular theoretical model, but on the contrary, each school is a result of various theoretical concepts (Melosik, 1995). Therefore, research on the effect of school education using a particular educational model is a difficult task, requiring specific conditions to conduct such research. Quantitative comparative research into various theoretical educational concepts of a school model is possible if various schools, genuinely based on certain theoretical assumptions, exist in the empirical world.

Such a situation occurred for the first time in the 1960s in the United States, when schools based on the assumptions of cognitive-developmental psychology, the so-called progressive schools (open schools) began to dominate. Progressive Era studies began at that time, in which progressive schools were studied and compared with the traditional school (Horwitz, 1979). Among the many studies in this area were also comparative studies, which focused on the impact of the two types of

schools on the functioning of their pupils (Gardner, 1966; Minuchin, 1969; Gordon, 1969; Baker, 1941).

The juxtaposition of these studies is shown in a significant publication from that period: *Psychological Effects of the "Open Classroom"* written by Robert A. Horwitz (1969). He analysed the available results of comparative studies of selected areas of functioning of progressive school pupils and traditional school pupils. For various reasons, the results turned out to be not so clear, obvious or unambiguous. Horwitz, analysing many comparative studies of the functioning of pupils from both school models, said that there was evidence of the superiority of progressive schools when the object of the analysis was: attitude towards school, creativity, nonconformity, autonomy, cooperation, curiosity, and sense of causation. However, there was no clear evidence of the superiority of progressive schools in the acquisition of academic skills or growth of self-esteem.

Teaching psychology owes a special developmental dynamism to progressive schools. These schools are at the centre of an idea of education which is opposite to that of the traditional school. This idea, even though it was formulated almost a century ago, is still relevant and inspires both theoretical reflections and empirical studies (Łędzińska and Czerniawska, 2011). Therefore, although the cited studies were conducted almost half a century ago, it is reasonable to repeat the studies of the presented problems using modern standardized tests to verify the selected features.

Assumptions underlying the ASP Żak and the social functioning of its former pupils

The Żak Proprietary Curriculum Primary School [in Polish: Autorska Szkoła

Podstawowa Żak] (ASP Żak) was one of Poland's schools (in Olsztyn) using the idea of progressive learning based on the assumptions of constructivism. It existed for eight years, from September 1994 to June 2002. The characteristics of ASP Żak distinguishing it from traditional schools followed from the principles of education developed by its founder, Prof. Dorota Klus-Stańska (95; 2000; 2013). These are the principles: "deep customization, pluralism of the operating strategy, exploration, creating a stimulating material learning environment, continuous peer cooperation, democratic citizenship" (Klus-Stańska, 2013, 316). The resulting picture of the functioning of the school became the starting point for determining the areas of functioning of its former pupils, which can vary depending on the education system they attended. These are:

- self-assessment,
- social competence,
- creative attitude,
- sense of self-efficacy.

ASP Żak pupils were treated as individuals, as fully-fledged holders of personal knowledge, capable of criticism, reflection, expressing views or raising interesting, topical issues (Klus-Stańska, 1999). As a result, children's thinking, natural cognitive curiosity and a desire to constantly search were stimulated. The pupil moved in complex situations, multi-contextual rather than simplified and unambiguous ones.

The learning environment in the school was constructed in such a way that the pupils achieved their knowledge independently, looking for various cognitive strategies, posed questions, hypotheses and sought a solution to a problem or verification of a hypothesis through the common negotiation of meanings in cognitive partnership (Klus-Stańska, 2000). Therefore, learning

was no longer a result of teaching by the teacher, but an independent and active exploration through the construction and reconstruction of mental models of reality (Klus-Stańska, 2010).

The school teacher was to respect the personal knowledge of the pupil, which was the starting point for developing teaching activities (Klus-Stańska, 2013). The teacher's task was not to deny, correct, or question the statements of the children, but to create the conditions for their development. In contrast, the pupil's response was considered sufficient at a given stage of his development. The role of the teacher was to encourage pupils to reflect on their own, or to put them in problem-solving situations. The pupil was to be sensitive to the situational context, which is an opportunity to ask questions, think, engage in dialogue, and jointly search for solutions (Klus-Stańska, 1995).

The belief that the cognition of reality, and thus an understanding of phenomena and processes, can occur in a number of possible ways was a significant assumption of the development of the school in these areas. The pupil, during his active exploration, poses hypotheses and observes the effects of his actions, thereby creating mental representations. Therefore, knowledge is treated not as a closed, unambiguous set of information contained in a textbook, but as a mental representation created by the joint construction and negotiation of meanings. It is not absorbed, but actively changed in patterns of thinking (Klus-Stańska, 1995).

The presented assumptions cannot be simply ascribed to these areas, since many of them may correlate with several areas of the functioning of pupils, which is associated with the existence of the relationships between those areas. Thus, for example, self-efficacy correlates positively with self-esteem and self-control (Juczyński, 2007).

Method

Participants

The group of respondents comprised 61 persons, including 27 former ASP Żak pupils and 34 former traditional school pupils. Among the respondents were 42 women and 19 men. The average age of the respondents was 26.82 years ($SD=5.46$). All respondents attended higher education, studying various subjects. Their financial status and the educational level of their parents differed.

Procedure

The study was conducted between January and May in 2014. The respondents filled in electronic versions of the *Self-Evaluation Scale SES* (Dzwonkowska et al., 2008), *Social Competence Questionnaire KKS* (Matczak, 2007), *Creative Behaviour Questionnaire KANH* (Poppek, 2000) and the *Generalized Self Efficacy Scale GSES* (Juczyński, 2007).

In order to verify whether there are significant differences in the level of self-esteem, social skills, creative attitude, and self-efficacy between the former pupils of the traditional and progressive schools, the t-test was used for independent samples, where the type of primary school attended by the respondents is the independent variable and the selected areas of functioning analysed on the basis of individual questionnaires is the dependent variable.

Results

An analysis of the results showed no significant differences in the level of self-esteem and social competence. In contrast, it showed significant differences in the creative attitude and generalized sense of self-efficacy between the two groups. A detailed description of the statistical results obtained from the questionnaires used is presented in the table below (Table 1).

Table 1. *Distribution of results of the questionnaires obtained by former pupils of the Autorska Szkoła Podstawowa Żak and the public primary school*

	Type of school				t
	ASP Żak		Traditional School		
	M	SD	M	SD	
Self-esteem	32.32	5.06	30.43	6.50	0.22
Social Competence	104.73	24.24	107.10	27.32	-0.35
Creative Attitude	40.47	8.23	35.08	9.84	2.28*
Nonconformity	21.11	4.31	17.93	5.27	2.53*
Heuristic Behaviour	19.36	4.45	17.15	5.16	1.76*
Self-efficacy	33.30	4.63	31.46	3.85	1.68*

* $p < 0.05$

Former pupils of both types of schools obtained similar average results in the Self-evaluation Scale. In his research on similar issues, Horwitz (1979) stated that the analysis of the school effect of the teaching process on pupil's self-esteem is problematic, because each pupil comes to school with his own amount of experience and, therefore, with a certain self-esteem. In connection with this, he proposed the use of longitudinal research. The first study would include first-graders enrolled in school, while the second one would cover the same group after they had completed primary education (Horwitz 1979). Only the difference between the results in the group of former progressive school pupils and those from a traditional school would be a reliable source of knowledge about the impact of the primary school teaching process on the development of self-esteem.

The level of social competence was also expected to differ between the two groups of former pupils. It turned out that slightly

higher results, but not statistically significant ones, were obtained by former pupils of the traditional school in the Social Competence Questionnaire. As can be seen from the above studies, the teaching process at the primary school level is not a significant predictor of the development of social competence. That is to say – according to the definition of social competence adopted in the questionnaire – the two groups did not differ in the level of skills that affect the effectiveness of coping with social situations, acquired by an individual in the course of social training. Neither cooperation within a group, discussion, negotiation of meanings in a cognitive partnership, nor the opportunity to share personal knowledge or express one's opinion in a forum, as assumed by ASP Żak (Klus-Stańska, 2000), differentiate the levels of social competence in the surveyed adult former pupils. This may be due to the fact that the presented assumptions of ASP Żak are one of a number of possible forms of social practice, which develops the

ability to deal effectively with specific school conditions, but not different and complex social situations outside school.

The examined social competence is the ability to achieve personal goals while taking into account social expectations (Matczak 2007). A possible explanation for the lower results obtained in the Social Competence Questionnaire by former ASP Żak pupils may also be related to the second part of the presented definition of social competence. The concept of taking social expectations into account stands in opposition to nonconformism, which, as subsequent analyses will reveal, is significantly higher among former ASP Żak pupils. This assumption is also confirmed by the negative correlation between the Social Competence Questionnaire KKS and the nonconformism scale of the Creative Behaviour Questionnaire KANH.

The analysis showed a significant difference in creative attitudes between former progressive school pupils and traditional school pupils. It turned out that the former ASP Żak pupils are more creative compared with former public elementary school pupils: $t=2.28$; $p<0.05$. Levene's test showed that the variances are homogeneous. The average result obtained by former ASP Żak pupils is $M=40.47$ ($SD=8.23$), while that obtained by former traditional primary school pupils is $M=35.08$ ($SD=9.84$). A detailed analysis of the Creative Behaviour Questionnaire KANH sub-scales showed that there are significant differences in the obtained N scale mean scores relating to nonconformist attitude: $t=2.53$, $p<0.05$. Levene's test showed that the variances are homogeneous. The average result obtained by former ASP Żak pupils is $M=21.11$ ($SD=4.31$), while that obtained by the former traditional primary school pupils is $M=17.93$ ($SD=5.27$). The average score on the H scale relating to heuristic behaviour also differs significantly between the two groups: $t=1.76$ $p<0.05$ (one-sided significance). Levene's test showed that the

variances are homogeneous. The average result obtained by former ASP Żak pupils is $M=19.36$ ($SD=4.45$), while that obtained by the former traditional primary school pupils is $M=17.15$ ($SD=5.16$).

Even as part of the Progressive Era studies, Garder's (1966) research is evidence of the superiority of progressive schools in the context of developing creativity. In contrast, Horwitz (1979) showed the superiority of progressive schools in the context of nonconformism, comparing studies involving classroom observations, teacher assessments of pupils' behaviour, the application of tests, and experimental tasks. The results of the recently standardized Creative Behaviour Questionnaire KANH measuring the level of creative behaviour, whose components are nonconformism and heuristic behaviour, also confirm this relationship.

Discussion

It turned out that elements of the educational process in ASP Żak, such as: non-transmissional educational methodology, emphasis on the activation of thinking, placing the pupil in a conflict situation without a prior talk, getting to know reality using multiple ways of cognition, the ability to solve problems independently in many ways, confidence in the pupils' cognitive competence (Klus-Stańska, 1995) had a significant influence on the development of creativity, a nonconformist attitude and heuristic behaviour. This effect is also related to the stage of school education in which the respondents experienced the various educational models. Early school age, in which the first serious and responsible tasks in new, specific, away-from-home conditions are assigned to a child, is a critical period in the development of awareness of action, subjectivity and autonomy (Harwas-Napierała and Trempała 2001). Thus, the impact of education based on these assumptions may permanently change pupils' intellectual and personality structures (Bruner, 2010).

The analysis showed a significant difference in the level of self-efficacy between former progressive school pupils and former traditional school pupils. It turned out that former ASP *Żak* pupils have a higher level of self-efficacy compared with public elementary school former pupils: $t=1.68$; $p<0.05$ (one-sided significance). Levene's test indicated a homogeneity of variance. The average result obtained by former ASP *Żak* pupils is $M=33.29$ ($SD=4.63$), while that obtained by former traditional primary school pupils is $M=31.46$ ($SD=3.87$). This result is also an outcome of the negative correlation between the generalized sense of self-efficacy and the level of social competence which, as has been shown previously, is slightly higher in former traditional school pupils. This means that the Generalized Self Efficacy Questionnaire currently used confirms the results of the non-standardised tests relating to the sense of internal control as a sense of causation, which have been used to examine former pupils of both models of schools within Progressive Era studies (Horwitz, 1979)

It turns out that the subjective treatment in ASP *Żak* of a pupil as an individual, capable of criticism, reflection, expressing his own views, as well as raising interesting and topical issues (Klus-Stańska, 2000) significantly affects the development of self-efficacy among former pupils.

Conclusion

Who we are and who we are becoming in the cycle of life is conditioned by genetic and environmental factors. The school environment is one such factor. The school has a special place in human development. First of all, it is an inevitable institution in the path of life, which one attends mandatorily five days a week for at least 12 years. Here, for the first time, a child comes into contact with a non-family social system, with other rules of conduct, norms, and values determined by the participants of the educational process.

Compared with the family environment, the school environment is a separate system, has certain formal rules of the organisation and different objectives and roles played by individual members of the school community. From this perspective, the school as an integral part of human life becomes a separate microcosm, a separate system, with specific rules of functioning in it. It is thus one of the important determinants of the quality of human life not only in terms of gaining knowledge or skills (as the primary goal of the school), but also, and perhaps above all, in terms of personality formation (as a secondary, often hidden, ignored and informal effect of learning at school).

Narrowing the collective consciousness of the purpose of school education to the cognitive development of a pupil, which is often the result of international studies such as, among others, PISA, treating this as a measure of school quality is a very disturbing phenomenon (Meyer, Zahendi et al., 2014). For the essence of school is not only the cognitive development of pupils, but also and especially preparing them to skilfully cope in adulthood, and this objective is not easily comparable quantitatively.

The world of the school where a pupil lands may differ, so the consequences of the learning processes can be very different. As D. Klus-Stańska argues, "educational events cause the pupils belonging to different school cultures to find themselves forming their personality and identity under different conditions" (Klus-Stańska, 2010, 111). She believes that pupils from a variety of "school worlds" will understand their own "I" in relation to themselves, other people and the surrounding reality in different ways. As Z. Melosik puts it, a pupil in school is "pressed into the ready-made identity matrix which is formed from the top down according to set, universal and irrefutable patterns" (Melosik, 1995, p. 126). A pupil who, in the process of developing knowledge, has the right to impart meanings, make personal choices and produce his

own paths of reasoning, problem solving and the means of arriving at knowledge, becomes someone different than the pupil who has been steered by instructions and the rigid imposition of meanings, values and norms for many years. The transformation model of school, characterized by frontal teaching, creates social situations that differ from the progressive model, in which pupils construct and negotiate meanings given to reality through cognitive partnership and personal knowledge.

The surveyed groups were differentiated by the kind of primary school they attended. After completion of ASP *Žak*, its former pupils continued their education in a traditional secondary school. This means that the former pupils surveyed, now adults who had attended higher education, were subjected to a different learning process for a period of six years about twenty years ago, and then continued their education in traditional schools. The different impacts experienced by the former pupils at their early school age significantly influenced the further development of specific areas of their functioning. These differences are revealed not only immediately after the completion of the stage of progressive schooling, as Horwitz proved (1979), but even in adulthood, after eleven years of traditional schooling, as this study presents. This means that the learning activities inspired by the assumptions of constructivism and experienced at the primary school level can have a significant influence on developing creativity, heuristic behaviour, nonconformism and self-efficacy in adult life. The kind of influence pupils are subjected to in the process of teaching in primary school significantly effects a lasting change in their thinking structures in certain areas and, therefore, implies a difference in their future functioning.

The study also confirms that early school age is a critical period for the development of particular competences in children. When the child starts learning at school, he begins

to develop a heightened awareness. At this time, the child is faced with the first serious and responsible tasks in a new, hitherto unknown to him, out-of-home environment. Suitable school conditions for doing these tasks make it possible for the child to develop skills and competencies. In this way, the child is preparing for the future independent struggle with the requirements of contemporary reality. As it turns out, the way in which the school is constructed in terms of the learning environment significantly affects functioning in adulthood.

The present study of former pupils, now adults taking their first steps in the labour market, who have experienced different kinds of education, can reveal the assumptions of a school that are significant for the development of specific aspects of individual functioning. The study is a proposal for a form of evaluation of the school from the perspective of its primary function, which is to prepare people for life in society on the one hand, and a proposal on how to explore the prime mover of school, and thus the extent to which the school can determine the functioning of its former pupils, on the other.

Currently, in the empirical world, experimental schools such as Summerhill, Montessori schools, or home schooling are still functioning, though perhaps not on such a large scale as in the already mentioned Progressive Era studies and not in one country, but scattered in many countries. Unfortunately, however, there are few comparative studies of these educational solutions (Kasprzak, 2013).

It is worth reflecting on what the quality of a school really is, and on this basis determine research tools. Then, look for possible areas for comparative studies in the empirical world. This includes, among others: alternative schools, specific "islands of educational resistance" (Śliwowski, 1993). The next step is to study the educational process functioning there and to compare it with the educational process of the traditional school. The final stage is to identify the elements that truly

contribute to the development of the child in the modern world from the perspective of the previously assumed purpose/essence of the functioning of the school.

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