

Schools in Difficulty: Identification, Issues and Strategies for Improvement

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Abstract- This article outlines the findings from a study that investigated the nature, composition and culture of schools operating in difficult contexts in three regions in Russia. This research study aimed to identify the external and internal causes of persistent underperformance in schools that operate in difficult social contexts. Its prime purpose was to identify the external and internal factors that contributed to lower achievement. The article outlines the main findings from the study and concludes by offering suggestions of the type of interventions that could assist schools in securing higher achievement even in the most challenging contexts.

I. INTRODUCTION

Inequality in educational opportunity in Russia has risen sharply in the last several years. This inevitably raises concerns about equity but also the country's economic prosperity. The task of providing quality education and equal access for all children – regardless of the social, economic and cultural standing of their families – is crucial for economic growth. Recent research has shown that acquiring social capital, which is interpreted as the duration of education and the quality of academic results along with the acquisition of social competencies¹, leads to better life chances and greater individual productivity. It is also clear from the research evidence that² the negative effects of social disadvantage upon subsequent achievement can be overturned. Evidence reinforces that the quality of education is a powerful force that can secure better outcomes, irrespective of a child's starting point³. The large

corpus of research within the school effectiveness and improvement field has repeatedly shown that highly effective schools can disrupt the connection between disadvantage and underachievement and improve the life chances of each student, regardless of individual capabilities and family context⁴.

This optimistic view is particularly important for schools in poorer areas where the majority of students come from disadvantaged families as it implies that poverty need not result in poor attainment and achievement⁵. Until recently, the relationship between disadvantage and underachievement, which many countries have understood and long experienced, was relatively unknown in Russia. Soviet pedagogy had developed very effective mechanisms for supporting children from families with low cultural capital⁶ and making them equal. A system of positive discrimination and strict meritocracy was created to support capable and hard-working students to succeed. However, in the post-Soviet era, this system of positive discrimination was largely dismantled and the culture of supporting children with socio-economic capital was replaced by a culture of fulfilling families' needs⁷.

Since 2000, comparative international research of educational achievement (e.g PIRLS, PISA) have demonstrated significant discrepancies in the comparative performance of Russian students depending upon the economic and educational resources of their parents⁸. The socio-economic status of students and the educational level of their parents combine to be the leading predictor and indicator of a student's subsequent achievement. This is supported by data from the Universal State Exam (USE) which shows that graduates of more affluent city schools achieve higher scores in Russian, computer science and

¹ Eliot A. Jamison & Dean T. Jamison & Eric A. Hanushek, 2006. "[The Effects of Education Quality on Income Growth and Mortality Decline](#)," [NBER Working Papers](#) 12652, National Bureau of Economic Research, Inc.

Eric A. Hanushek & Ludger Woessmann, 2008. "[The Role of Cognitive Skills in Economic Development](#)," [Journal of Economic Literature](#), American Economic Association, vol. 46(3), pages 607-68.

² For example, see: Heckman, J. (2007) **Beyond Pre-K. Rethinking the Conventional Wisdom on Educational Intervention** [Education Week](#), #11

³ Hanushek, Eric, 1971. "[Teacher Characteristics and Gains in Student Achievement: Estimation Using Micro Data](#)," [American](#)

[Economic Review](#), American Economic Association, vol. 61(2), p. 280-88

⁴ Chapman et al (2012)

⁵ Eric A. Hanushek & John F. Kain & Steven G. Rivkin, 2001. "[Why Public Schools Lose Teachers](#)," [NBER Working Papers](#) 8599, National Bureau of Economic Research, Inc

⁶ I. Frumen, Introduction to the theory and practice of democratic education – Krasnoyarsk, 1998

⁷ I. Frumen, The cook's children, "Ogonyok", NN24-26, M., 1992

⁸ The main results of the international research, "Learning to read and reading comprehension." Analytical Report, Moscow, 2007. Key Findings of the international studies of educational achievement of students in PISA-2006. Analytical Report, Moscow, 2007.

Tyumeneva Y.A. Comparative evaluation of factors leading to success in PIRLS: a secondary analysis of data from PIRLS 2006 from the Russian sample, *Voprosy Obrazovanie* No 1, 2009.

English⁹. As a consequence, these students will have better chances to continue their education and will be more competitive on the job market, as these skills are in demand.

So what are the implications from the current evidence about the underperformance of certain groups of students in Russia? Is it the case that Russian schools are no longer proficient in raising the aspirations of children from families with low social and cultural capital? The data shows that if students from low income families were equally distributed across all schools, and if all schools were equally effective, it would still mean that social and cultural status remain powerful determinants of underachievement. However, while cultural and social factors are influential, the fact remains that the quality of schooling can significantly reduce the impact of poverty on subsequent attainment.

In 2002 a World Bank's project "Reform of the Education System" was based on the simple but powerful idea that schools are different from one another, not just in their results, but in the quality of education they provide as well. In other words, there is significant variation in the quality of education across schools. This study concluded that the following barriers to achievement were commonplace:

the dependence of a child's possibilities on the social status of his or her parents and their education, on the family's economic standing, on the fact that the child happened to grow up in a village or in a city, in proximity or far from a good school... The children from a humble upbringing are pushed into the "cheap" schools. There is an actual worsening level of education for these young people... This is a sore spot. This is where inequality arises and is then cemented; it starts here and continues through generations – reproduction and entrenchment of social differentiation¹⁰.

A large scale analysis of USE results confirmed this conclusion and highlighted that graduates of gymnasiums and lyceums performed better than those who graduated from schools with in-depth study of a particular subject, which, in turn, outperformed graduates of public schools¹¹. Moreover, the research found that graduates of public schools take fewer elective exams and are thus much less focused on receiving a higher education than are students with higher socio-economic status¹². In the regions, we found that 87% of students with low USE scores were concentrated in 18% of schools in which very

few students acquired a high score. A deeper analysis of quality indicators supports the hypothesis that there are groups of schools in Russia with consistently weak educational results (a more detailed analysis of the grouping of schools by level of academic results is provided below).

Our research explored the social composition and cultural potential (of the family) of the children studying at these schools and confirmed the children from the poorest layers and marginalized groups of society attended these schools. Consequently, this study aimed to identify a set of external and internal causes of persistently deteriorating academic results at schools that operate in difficult social contexts, and to develop strategies based on our findings to overcome this inequality.

The following hypotheses guided the work of the research team:

- The external causes of consistent school underperformance reside in the socio-economic factors that affect the school context;
- The internal causes of consistent school underperformance reside in the quality of administration, teaching and school culture;
- The model of "effective schools"¹³ which has guided many international school improvement programmes could potentially be used to ameliorate the underperformance.

II. PROJECT METHODOLOGY

The research methodology was based on the model of effective schools identified in the literature and the field study was conducted to identify potential deficits in such aspects of schooling as:

- administration;
- teaching;
- school culture.

A comprehensive set of data collection methods were developed and subsequently deployed which included methods of sociological research and pedagogical evaluation:

- semi-structured interviews with the administration, teachers and parents of the selected schools;
- classroom observation and evaluations of the quality of teaching;
- student surveys;
- analysis of school records;
- analysis of the quality of the educational process.

The study took place in three regions of Russia that differ significantly based on geography, demographics and socio-economic characteristics. A statistical analysis was undertaken

9V. Sobkin, D. Adamchuk, Y. Kolomiets, I. Likhanov, A. Ivanova. Sociological research on USE results. Presentation. 2009.

G. Kovalena. Universal State Exam in the system of evaluating education quality. Presentation. ISMO RAO. 2009.

10 D. Vakhstain, D. Konstantiovsky, D. Kurakin. Between two waves of monitoring (2007-2008). Trends in education development: 20 years of reform, and now what? Moscow, Universitetskaya Kniga, 2009, pp 164-165.

11 FIPI Results of the Universal State Exam (May-June 2007, May-June 2008), Moscow, 2007, 2008.

12 V Sobkin, D. Adamchuk, Y. Kolomiets, I Likhanov, A. Ivanova. Social study of USE results, Presentation at the academic seminar of the HSE Institute of Educational Studies "Research and developments in the sphere of education", Moscow, 2010.

¹³ Mortimore Peter. The road to improvement. Reflections on school effectiveness. – Swets&Zeitlin Publishers, 1998.

based upon data from around 1,500 educational institutions in these three regions. The sample for the field research comprised 22 schools that all operate in difficult social contexts but divided by academic achievement into two groups: strong and weak. It is important to explain these terms as they will be used throughout the article. *Consistently weak schools* are those that have demonstrated consistently worse academic performance than other schools over a sustained period (i.e. one school falls into the weak category for three years in a row). *Consistently strong schools* are those that demonstrated consistently high academic results in all categories for three consecutive years. As previously mentioned, we analyzed education performance using a range of indicators and to assign types we used an SPSS two-step cluster analysis which allowed us to include in our analysis both continuous and discrete variables, and to effectively work with large amounts of data. For the next step of defining the difference between the two categories of consistently strong and weak schools, we employed an analysis of variance. To identify variances, an analysis was performed on a host of variables that characterize schools. These were broken up into several concepts:

- Finance
- Material and technical support
- Staffing
- Special training
- Social context

This analysis helped us understand what types of problems are common for schools with consistently weak results and to ascertain whether underperformance is caused by internal school issues or are more related specific to students and their families.

III. RESULTS

The results are now outlined by region. Initially, we look at the largest of the regions we studied, based on the most comprehensive database of more than 1,000 educational institutions. In forming models of a successful school from the point of view of results in this region, four groups of schools were identified. The smallest group comprised statistical outliers (i.e. schools that did not fit into any of the other three statistical clusters). For the most part, every school in this group is a special case that should be examined separately. There is little point in looking at central trends for them, as the dispersion within the group is extremely high. Nonetheless, averages for this group are provided to present the full picture. Schools were separated into clusters based on the following concepts (groups of indicators):

- ✓ USE results;
- ✓ results of administrative testing (AT);
- ✓ student performance indicators;
- ✓ GPA breakdown.

The size of the clusters over three years is presented below in Table 1. It is important to note that the number of weak schools in the first two clusters increased sharply in 2010. In other words, despite the general trend of *improving USE results* (an increase in average score and decrease in the number of failing scores), the number of schools that demonstrated *below-average results increased*.

Table 1. Size of groups, 2008-2010.

Cluster	2008	2009	2010
Outliers	7%	3%	1%
Weak schools	29%	26%	36%
Problems with USE	25%	24%	30%
Strong schools	21%	18%	17%
No data	18%	29%	16%

Table 2 shows detailed characteristics of the clusters in 2010. Considering the profile of clusters in one year is sufficient to understand the differences between them. The average value in other years depends on general trends, and the differences between clusters remain the same.

Table 2. Cluster profiles, 2010.

Characteristic	Schools with performance problems	Schools with problems on the USE	Strong schools	Outliers
Average USE score in Russian	60	55	65	51
Average USE score in math	44	40	51	34
Share of unsatisfactory USE scores in Russian	0.5%	1%	0.1%	14%
Share of unsatisfactory USE scores in math	1%	2%	0.3%	23%

Difference between highest and lowest USE scores in Russian
 Difference between highest and lowest USE scores in math
 Share of students that scored 4 or 5 on administrative tests in Russian
 Share of students that scored 2 on administrative tests in Russian
 Share of students that scored 4 or 5 on administrative tests in math
 Share of students that scored 2 on administrative tests in math
 Share of students with 4 or 5 in primary school
 Share of students with 4 or 5 in secondary school
 Share of students with 4 or 5 in high school
 Share of students that repeat grades in primary school
 Share of students that repeat grades in secondary school
 Share of secondary school graduates that receive diplomas without a single score of 3
 Share of high school graduates that receive diplomas without a single score of 3

40	29	42	31
46	34	51	35
5%	6%	7%	10%
0.6%	0.2%	0.2%	1.3%
6%	7%	8%	9%
0.5%	0.2%	0.1%	1.0%
41%	43%	53%	36%
32%	33%	45%	30%
32%	32%	47%	32%
0.7%	0.3%	0.1%	3.5%
0.6%	0.2%	0.1%	2.7%
24%	28%	37%	25%
32%	33%	49%	27%

External variables

Type of school

Public high school
 Public high school with in-depth study of a particular subject
 Gymnasium
 Lyceum

78%	89%	29%	93%
10%	6%	18%	0%
8%	2%	33%	7%
4%	3%	20%	0%
2%	7%	0%	43%

Share of schools with very few students

Type of locality

City
 Village

76%	50%	89%	21%
24%	50%	11%	79%
538	348	731	183

Number of students

We named cluster 1 -“**Schools with performance problems**”. This has been the largest cluster for three consecutive years. Schools in this category demonstrate below-average results in all indicators except for the USE. Three quarters of these are urban schools, usually with a large number of students (538 on average), but there are a few very small schools (2%). Most are public schools, but there is a rather large share of gymnasiums and lyceums. There are fewer schools in the second cluster, “**Schools with problems on the USE**”. The schools are also smaller in size (348 students on average) and there are more very small schools (7%). Half of the schools in this group are located in rural settings, and 89% of schools in the cluster are public schools. The main difference between this cluster and the first is in *USE results*, which are much lower here than in the other two groups. The average USE score is 40 in math and 55 in Russian. Although the share of 2s is average here, low scores still dominate and there are almost no high scores and there is little variance in the scores. The low level of achievement is confirmed by the low share of students that receive 4s and 5s in secondary and high school, and students without a single 3 in the GPA breakdown of their diploma.

The third cluster is “**Strong schools**”. These demonstrate above-average results across the board. They are the largest schools with an average number of students of 731. There are no very small schools in this cluster, and most are located in cities (89%). Public schools account for just 29% of this cluster, while 33% of schools are gymnasiums, 18% are schools with in-depth study of a particular subject, and 20% are lyceums.

The next stage of the analysis was to identify consistently strong and weak schools. For this, clustering was reproduced for 2008 and 2009, and then to compare clusters of schools for the three consecutive years.

Chart 1. Breakdown of schools by dynamics of success



*Fluctuating weak
Unstable strong
Not enough data
Consistently strong
No trend*

Consistently weak schools (30%) in this case are those that encountered the same problems in various years (from year to year, they end up in the same cluster). In Chart 2, we see that this group has a similar number of schools with poor academic performance and problems on AT (52%) and schools with problems on the USE (48%). **Fluctuating weak** schools (13%) demonstrate different problems in different years. Nonetheless, some of the problems inherent in the weak cluster are present in these schools every year.

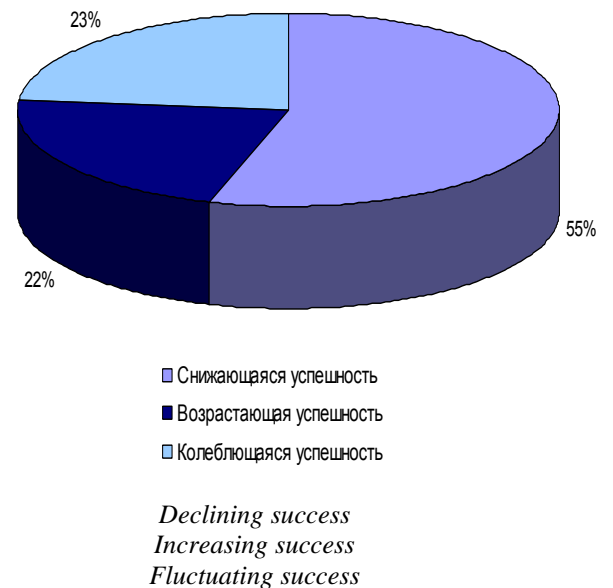
Consistently strong schools (12%) demonstrate unwaveringly good results in all variables. **Fluctuating strong** schools (17%) are those that had strong results in some year (or years), but had problems on some indicators. We identified several trends of strong schools (Graph 3): declining success, increasing success and fluctuating success. The largest share in this group is comprised of schools with declining success (55%), i.e. schools that demonstrated good results in one or two years, but that then declined to fall into one of the weak clusters. Schools with increasing success (22%) started out with below-average results, but then improved to be pushed into the group of strong schools. A **lack of trend** indicates that it was impossible to put the school into one of the clusters for two or even three years in a row due to a lack of data in the indicators being examined.

Graph 2. Breakdown of consistently weak schools



*Poor performance
Problems with USE*

Graph 3. Trends in the group of fluctuating strong schools



*Declining success
Increasing success
Fluctuating success*

The leading trend is declining success. Overall, the dynamics of academic success suggest that a sufficiently large proportion of schools are weak – either consistently or sporadically.

It is worth taking a separate look at the educational institutions that find themselves in the most precarious situations. In our statistical analysis, we identified schools that were responsible for more than 60% of unsatisfactory scores on the USE in this region, and then defined the “most disadvantaged” (i.e. those at which students received unsatisfactory scores on the USE in Russian and math over three years). These schools account for 1% of all educational institutions in the region. Their

indicators differ significantly from the average of the group of weak schools discussed above. The “most disadvantaged” combine problems on the USE with poor academic results: the number of students with 2s and the overall average score is lower than in the “schools with problems on the USE” group, and the proportion of students with grades of 4 and 5 is below the average of the “schools with performance problems” group. In other words, the issue of poor academic results is systemic for these schools.

For comparison, we then looked at the most successful region among those we studied. A statistical analysis of 200 schools’ results on the USE in this region shows three distinct types of educational institutions: schools with high, average and low results.

Table 3. Size of groups, 2007-2010

Cluster	2007	2008	2009	2010
Average results	35%	30%	29%	39%
High results	36%	35%	36%	31%
Low results	12%	17%	14%	5%
No data	17%	19%	21%	25%

Only in 2010 did the number of weak schools decrease and the number of average schools increase. This improvement was due to positive trends in USE results, or, more precisely, a sharp drop in the number of unsatisfactory scores. It is safe to assume that more complete data on various academic indicators would paint a more ambiguous picture. Unfortunately, the quality of available data in this region made it impossible to consider a number of important indicators.

Table 4 shows a detailed breakdown of clusters of schools in the region in 2010. Considering the profiles of clusters in one year is sufficient to understand the differences between them. The average value in other years depends on general trends, and the differences between clusters remain the same.

Table 4. Cluster profiles, 2010

Characteristic	Low results	Average results	High results
Average USE score in Russian	52	58	65
Average USE score in math	33	41	51
Highest USE score in Russian	75	73	86
Highest USE score in math	56	61	74
Lowest USE score in Russian	36	44	49
Lowest USE score in math	11	25	28
Share of unsatisfactory USE scores in Russian	12%	0.1%	0%
Share of unsatisfactory USE scores in math	11%	0.2%	0%
Type of school			
<i>Public high school</i>	92%	99%	76%
<i>Public high school with in-depth study of a particular subject</i>	8%	0%	13%
<i>Gymnasiums</i>	0%	1%	6%
<i>Lyceums</i>	0%	0%	5%
Share of ungraded schools	9%	32%	4%
Type of locality			
<i>City</i>	58%	49%	78%
<i>Village</i>	42%	51%	23%
Number of students	234	292	563

Schools with low results had the lowest scores across all indicators included in the analysis. The *average scores on Russian and math* for these schools were 52 and 33, respectively. The *highest score on Russian* (75) was better than at schools with

average results, but well below that of the third group. The lowest score in both subjects was significantly below that in the other two groups, the lowest score in math being less than half that for average schools. The *share of unsatisfactory scores on*

the USE for both subjects was much higher at 12% for Russian and 11% for math.

This group includes the smallest schools with an average number of students of 234. But the percentage of very small schools is average (9%), though this number has increased in some years. The split between rural and urban schools again differs in each year, but the overall ratio between them for the cluster is more or less even. The vast majority of schools in the group are public secondary schools.

IV. CONTEXTUAL ANALYSIS

In the next stage of the study, we attempted to answer the question of what causes a steady decline in results for one school and the success of others. We examined the differences between groups of consistently weak and consistently strong schools. This involved a dispersion analysis of the social aspects of schools and various indicators of their operation. We started by looking at a school's staffing, analyzed based on data from over 1,000 schools in the first region.

In the group of **strong schools**, the share of *teachers with the highest qualifications* (55%) and the share of schools that have *special education teachers* (36%) is much higher than in the other two groups. At the same time, these schools have a lower share of teachers of the first (22%) and second (15%) level of qualification, and young teachers (3%). Overall, the staff in this class of schools can be considered higher quality.

The group of schools with problems on the USE differs in this respect greatly. In these schools, the share of teachers with higher education (84%) and of the highest qualifications (34%) is much lower. Moreover, there are fewer educator-psychologists (51%) and special education teachers (6%).

As expected, the most significant parameter on which schools differ from one another is characteristics of their **population**. We analyzed the impact of features of the student body on schools' academic results based on information in the social composition of educational institutions, collected in two of the three researched regions. Analyzing this data uncovered significant variation between school clusters. Schools with low results scored much higher on the indicators "*share of students for whom Russian is not their native language*" and "*share of families in which one (the only) or both parents are unemployed*", and much lower on the indicator "*relative number of families in which both parents have college degrees*". The cluster of strong schools scored much higher on the indicator "*relative number of families in which both parents have college degrees*", and lower on the indicators "*relative share of single-parent families*" and "*share of families in which one (the only) or both parents are unemployed*". The research found that students in the strongest schools are more likely than those at weak schools to live in well-furnished apartments (88% versus 45%) and are less likely to live in private sector (8% versus 38%).

In summary, that data analysis allowed us to reach the following conclusions:

- Schools with consistently high results have the most favorable social contexts.

- Schools with consistently low results have the highest percentage of non-native Russian speaking students.
- Schools with weak academic results have more students whose parents are out of work and do not have college degrees.

As far as staff and other school resources are concerned, the analysis showed that the schools that have a more challenging student population also have:

- Less qualified staff.
- Fewer Library resources.
- Less funds for equipment.
- Lower share of the budget spent on teacher salaries.

In the next stage of the study we focused on the conditions that contributed to high or low academic performance in all the schools we studied. The following is a summary of the main findings.

V. CONDITIONS THAT INFLUENCE SCHOOL PERFORMANCE

Our analysis showed a fall in enrollment in almost all low performing schools over the last three years. This is more likely to be a consequence of schools losing out to the competition, which is accompanied by negative selection – stronger students leave for better schools and weaker and problem students enter, which further weighs on the school's academic results. In this difficult situation, problems with staff inevitably arise. We found that in underperforming schools there was a lack of highly qualified teachers, most being pre-retirement age, and, in most cases, a lack of motivation among teachers to improve outcomes.

The schools we studied (excluding the largest ones) did not have the necessary specialists to support the needs of the student body. In certain cases only had the budget to pay one or a part-time special education teacher, but this money was often split between regular teachers. In isolated rural schools, there is a significantly limited choice of specialists and they are hard to replace if they leave. Moreover, these schools' negative reputations make it hard for them to attract qualified specialists.

The analysis showed that the parents of this student population, as a rule, do not allow the schools to use their resources to help deal with operational and developmental issues (in particular, we saw no examples of parents playing an active role in school boards or even parent committees). There were very few cases of teachers being asked to work as tutors. Schools are generally operating under conditions in which there is no general interest in education from the side of parents. Most are not involved in the educational process and while there is a minority that has the resources they often "vote with their feet".

Our analysis led us to conclude that the organization of the educational process in the underperforming schools and the lack of resources were two important reasons for their failing position. For the vast majority of students in all the educational institutions we studied, school is the only place of education therefore it is important that their time at school is optimized. But additional educational experiences that these schools offer students after regular classroom hours are over are often limited to sports and art classes (no more than two or three, usually).

This is true for all the underperforming schools we studied. In addition, there were no regular classes for the most interested students or elective subjects, nor was there permanent extra-curricular study or tutoring for weaker students. By teaching students from disadvantaged families, the school often takes on the function of family care and nurturing of students thus playing the role of guardian and mentor. Very frequently, this fact alone restricts a school's ability to give students a chance to succeed and compete, as they are concentrating on nurturing rather than learning.

To summarize, it is important to underline that the main cause of underperformance is the fact that the schools are located in challenging social contexts and as a result they encounter more problem students, do not have the necessary resources to deal

with the range of problems they face. However we encountered schools that are under the same challenging conditions as others and working with just as complicated a student population but that demonstrate much better results and successfully compete with schools that operate in more advantageous environments. So why are these schools successful?

VI. EFFECTIVE SCHOOLS IN CHALLENGING CONTEXTS

The table below shows data on the characteristics of the student population and staff of three schools that we studied in three different regions.

Table 5. Contextual characteristics of schools with strong results

Educational institution	Number of students	% Single-parent families	% Parents with college degrees	% families with many children	% Working-class families	% Poor and socially unprotected families	% Families from the risk group	% Teachers with the highest qualifications
School #1	235	26	14	9	58	30	4.5	16
School #2	134	27.5	12.5	6	51	50.5	4.4	38.8
School #3	289	40	8	6	60	23	1.6	21

These schools have successfully coped with the difficulties of educating the most challenging students from disadvantaged, poorly educated families even though they have a low number of teachers with the highest qualifications. These schools all hold high positions in the rankings based on the USE

results, have fared well in academic competitions, including high-level ones, and are actively involved in project activities. The table below shows USE results from these schools.

Table 6. USE results of schools in the study

School	Average score in Russian		Average score in math	
	2009	2010	2009	2010
School #1	65	67.5	44	53
Average score in the region	58	60	44	43
School #2	64	68	50	55
Average score in the region	58.6	60	41.6	44
School #3	68.8	58.5	54.5	40.7
Average score in the region	59.4	59.3	44	41.5

The results, with just one exception (School #3, 2010 USE) are significantly higher than the average for the region in which the school is located.. As our field research shows, what is globally referred to as a "chance at success in life" is the result of a goal-oriented and consistent educational strategy that determines and directs all aspects of school life and the actions of

each teacher. We suggest that there are three basic elements of this strategy.

The first is the absolute **priority of high educational achievement and high expectations of teachers** for all their students. Understanding that students are often not well prepared for school, have problems studying and do not receive support at

home, teachers in these schools make every effort to develop their academic motivation, put them on the path to reach their academic potential, and support their interests and activity in education. To facilitate this, schools are actively involved in projects and academic research, starting with first grade and related to themes that are accessible to students: the history of their families, the school's neighboring environment, territorial issues. In a number of schools, these research projects are conducted at a very high level, students participating in regional and national competitions and conferences, schools building partnerships with universities and research institutes in the capital of their region and nearby cities (schools in Karelia, for example, work with institutes in St. Petersburg). We again highlight that this kind of work is becoming a necessary element of the school improvement, regardless of the region, whether the school is located in a city or village, or even the number of students.

Along with such projects, schools are **carefully building lines of support for their students** who need help. Students are given the chance after school to prepare for the USE (which is especially important, as parents cannot always provide this help) and they get additional assistance from teachers on subjects that are particularly difficult for them. The most interested and able children take additional classes to do more difficult work and to prepare them for academic competitions. These classes, as well as art and sports, are available to students of all levels and grades. Schools often do not have the own materials and staff for these services so work in partnership with local art centers and libraries, and nearby sport and music schools. Close cooperation and collaboration with parents, as well as openness to other educational institutions is another major reason for their success. Teachers willingly hold open classes, workshops and seminars for students from other educational institutions, participate in regional and federal teacher competitions, and take students to inter-scholastic events. To put it another way, they have an open-door policy, which gives them impetus to develop.

These schools stand out due to their **positive culture**, based on cooperation, collective decision-making, and common goals for everyone in the school community. New teachers that come to the school receive help from the administration and their colleagues, and get a personal mentor that supports them throughout their first year at the school. All forms of meaningful collaboration between students and teachers are encouraged including inter-grad and inter-subject group projects, interdisciplinary lessons, integrated classes that unite children studying in general education and special education programs.

Essentially, the schools that succeed against the odds in very difficult circumstances reflect the model of effective schools that is widely known internationally¹⁴. This school effectiveness model has been used to develop and implement the most successful programs of school improvement that we analyzed to inform our research¹⁵. These programmes include the High

Reliability Schools programs in the UK¹⁶ and other projects initiated in the state of Georgia¹⁷, and developed by a consortium of schools in Chicago¹⁸. The same framework has been used to improve schools with support from the Institute of Education at the University of London¹⁹.

VII. CONCLUSIONS

The findings from our study have allowed us to reach the following conclusions:

- Schools with strong results tend to operate in an advantageous social context and have adequate staff and financial resources. These are most frequently urban schools, a large share of them being gymnasiums and lyceums.
- Schools operating under less favorable social conditions and with minimal staff and material resources have a much lower chance of being successful. Some of the schools that can be considered the most disadvantaged consistently demonstrate poor academic results.
- There are regional features that determine the share of weak schools but in all regions, the number of consistently weak schools includes urban and rural educational institutions, the vast majority of which are public schools.
- The most common characteristic of schools with consistently poor academic results is a challenging student population (children whose parents are out of work and uneducated, who display deviant behavior, and who are non-native Russian speakers) and limited resources (staff and funding).
- Schools operating in difficult social contexts however can provide their students with a high level of education so that their academic achievements are in line with the more advantageously situated educational institutions, as long as they employ consistent and systematic educational strategies that ensure effective operation.
- Becoming a more effective school requires extraordinary effort from school staff and should be accompanied by appropriate support at the municipal and regional level.

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19 Alma Harris Equity and diversity: building community Improving schools in challenging circumstances Institute of Education • University of London, 2008.

Most importantly, our main conclusion is that when evaluating the quality of a school's performance, the context in which it functions must be taken into account. To do this effectively, one possible option is to group schools into clusters based on several contextual characteristics (primarily socio-economic features, the student population, available resources, geographical aspects) and to define effective schools within a given cluster. The next step could then be to develop contextual specific programmes that support schools that are in at-risk cluster. i.e. those operating in the most difficult social contexts. This support would need to be regular and accompanied by additional resources to compensate the schools for operating in high degrees of challenge. In addition, in the most urgent cases, when schools start to see deteriorating academic results, it would

be advisable to ensure that programs are put in place to help them switch to an effective mode of operation (i.e. school improvement programs) that are comprehensive, intensive and quick to implement.

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