Open budget: Learning from the Open School Platform in Donetsk oblast, Ukraine

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Case Study for the IIEP-UNESCO Research Project 'Open Government in Education: Learning from Experience'

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Foreword

Open government emerged about a decade ago and has been gaining momentum over the past few years, likely as a result of recent advances in information technology. It is based on the assumption that the rapid development of new technologies combined with the pressure for more transparent and accountable governments will push countries to explore innovative approaches not only to share information with the public, but also to consult citizens and engage them in education service delivery. Moreover, by helping to redefine citizen-government boundaries, it is believed that open government can help improve transparency and accountability in the management of public sectors (including the education sector), and beyond that, the overall public administration culture.

The Organisation for Economic Co-operation and Development (OECD) defines open government as the transparency of government actions, the accessibility of government services and information, and the responsiveness of government to new ideas, demands and needs. The Open Government Partnership identifies three major principles underlying this concept, namely: information transparency, public engagement, and accountability. The European Commission emphasises the principles of transparency, collaboration and participation, open data, open services, and open decisions. Finally, the World Bank defines open government using the principles of transparency, citizen engagement and participation, and responsiveness.

A cursory review suggests that there is a dearth of literature on open government in the education sector and a lack of systematic identification of practical experiences within this framework. Moreover, there is no uniformity among definitions of 'open government' in the education sector and an absence of clarity regarding the various domains of open government observed in the educational field. There is also a growing need to evaluate the impact of the increasing number of open government initiatives developed within the education sector around the world and to analyse and draw lessons from the challenges and barriers associated with their implementation in order to achieve their full potential.

The challenge for educational planners is huge – to pay due attention to open government concerns at each step at the policy and planning cycle. Each step allows for varying degrees of citizen input and participation: during the first stage citizens can help identify the problem and discuss possible policy options; then, during policy implementation, they can monitor whether the policy is being implemented as planned, detect weaknesses and shortcomings, and contribute to the identification of solutions. However, citizens can also contribute actively to the evaluation of education policies and programmes through social audits, thereby complementing other more formal systems of 'checks and balances to hold governments to account for their education commitments' (UIS, 2018).

In this context, the UNESCO International Institute for Educational Planning (IIEP) has decided to launch a new research project entitled 'Open government in education: Learning from experience' as part of its 2018-21 Medium-Term Strategy. Open government is understood here as the opening up of government data, processes, decisions, and control mechanisms to public involvement and scrutiny, with a view to ensuring inclusive and equitable quality education. It calls for renewed government-citizen interaction and relies on the principles of transparency, citizen engagement, and participation, as well as government responsiveness. IIEP's project aims at promoting more responsive, effective, and innovative educational planning with a focus on citizen involvement. Its specific aims are as follows:

- to foster an understanding of what is meant by open government in the education sector;
- to explore perceptions of open government approaches in education among all major stakeholders;

- to establish a list of criteria that maximise the successful implementation of open government initiatives in education;

- to evaluate the impact of open government initiatives specifically as they relate to the aims set out in SDG 4; and

- to provide recommendations to education decision makers and planners on how to make informed decisions about the design and implementation of open government policies in education.

This research contends that all three principles of open government – transparency, accountability, and citizen engagement – are pivotal to achieving SDG 4. Through open school data, the public can verify that their governments spend money in a fair manner, which maximises opportunities for marginalised populations to access education. Open procurement can deepen the level of transparency and accountability in education contract management, thereby ensuring that procured items (e.g. school equipment, textbooks) actually reach their beneficiaries. Moreover, open policy and planning promote the involvement of minorities in the formulation of policy, which helps to make policies and curricula more diverse and inclusive. Lastly, social audits, like community monitoring, can be an effective means for verifying that school resources are being used correctly.

In 2018, IIEP undertook exploratory work to better formulate what is meant by open government in the education sector, and to document and assess early, innovative initiatives developed in that field. On this basis, the Institute launched in 2019 a global survey to review existing initiatives. It also launched seven case studies illustrating the diversity of open government initiatives in education. Each case prioritises one of the following aspects of open government: open policy, open budgeting, open contracting, social audits, and crowdsourcing. The cases combine the following data collection methods: gathering of contextual information using secondary data related to the programmes/initiatives under review; a qualitative inquiry with semi-structured interviews; focus group discussions; participatory observation; and a large-scale quantitative inquiry involving the distribution of 250 questionnaires to school actors using a multi-level stratified sampling method.

This case study analyses how an open government approach is being applied in Ukraine to resolve the critical issue of non-transparent school financing that has undermined trust among key stakeholders in educational planning. It focuses on the Open School Platform which is facilitating interaction between key education stakeholders: local public authorities, schools, as well as local NGOs and parents. This study is part of a series of case studies commissioned by the IIEP, under its open government in education research, and as part of its global capacity-building programme on Ethics and Corruption in Education.

The IIEP wishes to thank the authors, Oksana Huss and Oleksandra Keudel, for their valuable contribution.

Muriel Poisson

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Glossary

API	Application programming interface
ATO	Anti-Terrorist Operation zone
CSO	Civil society organization
DoE	Department of Education
EU	European Union
EUACI	European Union Anti-Corruption Initiative
FG	Focus group
ICT	Information and communications technology
IDP	Internally displaced person
IIEP	UNESCO International Institute for Educational Planning
IRF	International Renaissance Foundation
LPA	Local public authorities
MDT	Ministry of Digital Transformation
MES	Ministry of Education and Science
MoF	Ministry of Finance
NGO	Non-governmental organization
NKMZ	New Kramatorsk Machine-building Factory
OECD	Organisation for Economic Co-operation and Development
OG	Open government
OGP	Open Government Partnership
OS	Open School Platform
PTA	Parent-teacher association
RACI matrix	Responsible, Accountable, Consulted, Informed matrix
RPR	Reanimation Package of Reforms
SMC	School Management Committee
TUESWU	Trade Union of Education and Science Workers of Ukraine
UAH	Ukrainian hryvnia (monetary unit: UAH 1 = EUR 0.029)
UNESCO	United Nations Educational, Scientific and Cultural Organization

Executive summary

This case study of Open School in Ukraine analyses how an open government approach is being applied to resolve the critical issue of non-transparent school financing that has undermined trust among key stakeholders in educational planning. Despite the relatively large share of budget expenditure reserved for education, it seems to be insufficient to cover the basic needs of education institutions. As a result, many schools resort to raising funds directly from parents to ensure that they can function. Parents' donations are highly controversial and often legally problematic in Ukraine. There are two major issues with regard to public funds for education: misappropriation (corruption) and mismanagement of resources.

The Open School Platform (OS) is an online tool that visualises the school's budget, needs and expenditures in an easy-to-read format. It also allows users to see sources of funding, along with a list of expenditures, including information about vendors and service providers. Parents can assess published needs, make donations and follow the reporting of expenditures. The same OS platform enables transparent communication between schools and local public authorities, as school principals can request funds for specific needs from the local Department of Education, before raising them from parents.

The Ukrainian platform was developed in 2016 by a civil society organization with support from Western donors, which was called upon to provide a tool for the implementation of new national legislation for open data, public access to information, and the transparent public financing of schools. Since then, the OS platform has been implemented locally, thus allowing interaction between key stakeholders in education – local public authorities, schools, as well as local NGOs and parents.

The study shows that OS has contributed to the solution of three major issues. First, with greater clarity about school finances (e.g. sources and amounts of funding, justification of expenditures), the perception of corruption has diminished while trust among key stakeholders has increased. Second, OS has improved communication and collaboration between school personnel and local public authorities. Third, comparable financial requests and reports make it possible now to generate the information needed to plan more effectively before the upcoming cycles, rather than after. Indirectly, the OS platform has also contributed to more equity in education on both the individual and school level.

This case study also confirms that the use of ICT can lead to inequalities in poor rural communities having low levels of Internet access or computer literacy. On the other hand, the impact of similar factors in semi-urban contexts seems to be secondary. The comparison of OS implementation in two semi-urban communities showed that the risk of poor IT skills and passive parents is mitigated through strategic communication and synergy of key stakeholders. In practical terms this means that civil society organizations are now collaborating with local public authorities (LPA) in three important tasks: first, they inform citizens (in particular parents) and schools about the OS platform; second, they provide technical training for the users of the system to improve their skills; and third, NGOs or parents' organizations can now engage other interested parents and show them how the OS tool can be used for strategic purposes.

The OS platform is a typical example of a tool that enables an open government (OG) approach in education. In the long term, such an approach will mean a change of political culture in the relationship between society and the state. In particular, OG represents a shift from the hierarchical, passive thinking of subordinates to a paradigm of cooperation and partnership. The new paradigm implies a non-hierarchical, collaborative relationship between the main stakeholders – (local) public authorities, school personnel, parents – who become partners to solve practical issues at the crossroad of their interests, capacities and responsibilities. Citizens can have the capacity to actively improve the distribution of public resources by means of monitoring, evaluation, lodging

complaints and making suggestions. The input from citizens increases the demand for the accountability and responsiveness of authorities and school personnel.

While demonstrating the many advantages of OG, this study nonetheless reveals that there are several prerequisites needed for OG to make an impact and be effective. For one thing, an OG initiative needs commitment from both those who open up the governmental process and those who are the intended participants and beneficiaries of the open approach. There needs to be personal dedication by data agents (i.e. school principals), constructive participation of citizens (i.e. parents), strategic communication by civil society organizations, and responsiveness by (local) authorities. National open data policies and legislation for transparency and citizen engagement provide the necessary basis for these four prerequisites to succeed.

This case study concludes with the following recommendations for a successful OG initiative:

OG framework (public authorities)

- Adopting an institutional framework for transparency (e.g. in public finance) and strong national open data policies.

- Providing an infrastructure and access to information (e.g. on public finance) in line with the six principles of the Open Data Charter.

- Ensuring a legal framework for citizen participation (e.g. regulations for public consultations, petitions, complaints).

OG strategy (OG initiator)

- Setting out the expected impact as clearly as possible in order to identify stakeholders for the OG partnership and decide the mechanism of change.

- Identifying stakeholders for partnership – information providers, users and auditors – including assessment of their capacities and responsibilities.

- Identifying a suitable mechanism of change (e.g. open contracting, open budgeting)

Communication and interaction process (synergy of public authorities and NGOs)

- Creating a platform for communication and interaction among stakeholders (NGOs or private sector): e.g. physical space, online platform, and other handy and accessible technological solutions.

- Mobilising citizens in two steps (NGOs or public authorities): first, identifying and informing the active core or targeting a relevant group of interest in society; and second, initiating practical training with a 'learning-by-doing' approach to build up social capital for constructive interaction with authorities.

- Capacity building (human resources, space, tools) and defining process (procedures) for responsiveness and answerability (public authorities).

1 ● General context

1.1 Open government, anti-corruption and decentralisation reforms

Since its independence after the collapse of the Soviet Union in 1991, Ukraine – the largest country in Europe – has struggled with endemic corruption. The Revolution of Dignity in 2014 was the second public outrage (along with the Orange Revolution in 2004) that demonstrated the capacity of civil society in Ukraine to successfully oppose undemocratic and corrupt leaders. Civil society in Ukraine enjoys strong support from the international community. The cooperation between civil society and the international community follows the so-called 'sandwich model': each side pushes the government into making reforms (Nitsova, Pop-Eleches, and Robertson, 2018). After the 2013-14 Revolution of Dignity, an array of reforms was initiated by the government in consultation with civil society organizations, of which the anti-corruption reform was the most significant. It aimed to increase accountability through better access to information and public engagement (RPR, 2015).

Another significant reform with some overlapping with anti-corruption, is the reform of decentralisation which aims at sharing power between national and local levels of governance in order to improve the management of public resources and make it more effective. In line with the principle of subsidiarity, the control over local issues, including primary and secondary education, was transferred to local authorities. In particular, local departments of education (DoE) in their capacity as 'school founders'[1] now distribute public funds to educational institutions and control their expenditures.

1.2 Open Government Partnership

In 2011, Ukraine became a member of the global Open Government Partnership (OGP) – a multilateral initiative that aims to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance. Meanwhile, Ukrainian state authorities, in cooperation with civil society, were implementing the fourth Action Plan for 2018-2020, which includes 17 commitments related to public procurement, access to information, open data, beneficial ownership, online public services, cooperation with civil society organizations, anti-corruption, education, and the environment (OGP, n.d.). The current action plan includes for the first time two commitments relevant for the education sector: establishing the National Education Electronic Platform[2] and enabling online verification of education certificates.[3]

In addition to OGP developments, amendments to the legislation on access to public information from 2015 have brought e-democracy and e-governance in Ukraine to a new level (Hughes and Huss, 2017, p. 11). The

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[1] Founder of a general secondary education institution' or 'school founder' is defined by the Law on Secondary Education of 16 January 2020 as 'a public authority on behalf of the State, the relevant council on behalf of a territorial community (communities), a natural and / or legal person, by decision and property of which a general secondary education institution is established'. (Parliament of Ukraine, 2020)

[2] Action Plan on Implementation of the Open Government Partnership in 2018-2020. Open Government Partnership. *https://www.opengovpartnership.org/members/ukraine/commitments/UA0084/*

[3] Action Plan on Implementation of the Open Government Partnership in 2018-2020. Open Government Partnership. *https://www.opengovpartnership.org/members/ukraine/commitments/UA0085/*

main milestones include regulations on open data, open use of public funds, introduction of electronic petitions and complaint mechanisms. Success stories, like the implementation of ProZorro – the e-platform for public procurement – have boosted transparency and competition in public procurement. But despite considerable improvements in legislation, the implementation of laws and ensuring governmental commitments on data transparency remain a big challenge.

1.3 Rationale for OG in education

Particularities of secondary education in Ukraine

There are around 16,200 schools in Ukraine with 3.9 million students and 441,000 teachers involved in the K-12 educational process (MES, n.d.). Since 2015, the education system is undergoing its first substantial reform since Ukraine's independence. Fundamental changes are taking place with regard to the content of education and teaching approaches (i.e. *New Ukrainian School*), but also regarding political responsibilities and finance. The reform began to take shape only in 2017, with the Law on Education (Parliament of Ukraine, 2017) and the recent Law on Secondary Education (Parliament of Ukraine, 2020) that came into force on 18 March 2020.

A crucial aspect of the reform is the shift from a strictly centralised system of education to one with increased powers for local public authorities. Prior to the reform, most schools were subordinated to State regional administrations *(oblasna derzhavna administratsiia)*, executive bodies under the President of Ukraine, and funded from the central budget, while local public authorities (LPAs) were distributing these funds and were able to re-allocate them to other sectors (Samokhin and Kudelia, 2018). In the context of the ongoing decentralisation reform, local public authorities (LPAs) – specifically, the local elected representative bodies (city councils), elected executives (mayors and their deputies) and non-elected executives (departments of education) – became key players in educational planning in Ukraine. LPAs are considered school 'founders' by Ukrainian legislation, and they financially maintain schools from local budgets (Parliament of Ukraine, 2020). In particular, departments of education (DoEs) are now responsible for planning the school network and personnel based on local needs and available resources. DoEs also appoint and dismiss school principals.[4] DoEs are executive bodies at the local level of governance, and are subordinated to the Mayor and Deputy Mayor for Education.

Increasing the efficiency of education funding is one of the central issues of the reform. Ukrainian schools are tuition-free and formally fully funded by the State. According to the Institute of Educational Analytics, in 2018 State spending for education represented 16.6% of State expenditures in Ukraine (MES, 2018, p. 13). And 48% of State expenditures for education were allocated to cover wages, goods and services for secondary education (MES, 2018, p. 14). Currently, national authorities provide an educational subvention to LPAs that represents around 7% of the total State budget[5]. This subvention is primarily used to cover the salaries of the pedagogical staff, while specific subventions also exist for the maintenance of schools, canteen and sport facilities, purchase of school buses, and the organization of studies for students with special educational needs (interview, MES, expert on finance, Kyiv). The Ministry of Education and Science (MES) allocates subventions to schools based on a transparent formula[6] that incentivises optimisation of local school networks through a merger of classes. As part of the decentralisation reform, subventions are also provided to establish 'core schools' *(oporni*

4- Art. 26 of the Law of Ukraine No. 651-XIV (with changes) 'On general secondary education' as of 13.05.1999. In 2017, open competition for the position of school principal was introduced, and a selection committee is now responsible for choosing the winner who then needs to be formally appointed by the DoE (Law of Ukraine No. 2145-VIII as of 05.09.2017. *https://zakon.rada.gov.ua/laws/show/651-14*

5- *https://openbudget.gov.ua/national-budget/expenses?class=program*

6- The formula is based on estimated class size, and takes into account the type and size of the municipality, as well as the specifics of inclusive educational institutions. The formula is presented in the Decree from 27 December 2017 Nr. 1088 'About the approval of the formula for distribution of the educational subvention between local budgets' *https://zakon.rada.gov.ua/laws/show/1088-2017-%D0%BF#Text (KMU 2017)*

shkoly) – i.e. education hubs that cover areas having small student populations – and for the reform of primary education (which includes the purchase of computers, the setting up of the Internet and other infrastructure improvements).[7]

Complementary to the education subvention provided by the central government, LPAs in their capacity of school 'founders' provide funding from local budgets for the maintenance of schools, salaries of technical and administrative staff and transportation of pupils. They also provide information to the MES on their needs for the State education subvention (number of teaching staff, students with special needs, special requirements).[8] For most communities, educational expenditure is the highest expenditure, with some poor, mostly rural communities, spending up to 80% of their budgets on education (interview, MES, expert on finance, Kyiv). Further, local DoEs establish a list of needs expressed by schools, determine (ideally, in consultation with school principals) priorities for responding to those needs for their municipality, and often handle all operational accounting and public procurement for goods and services for schools.

Funding issues

Despite this relatively large share of budget expenditure allocated to education, it appears to be insufficient to cover the basic needs of schools, resulting in the widespread practice among schools of raising additional funds from parents.[9] While DoE funding covers major renovation and maintenance costs (e.g. replacing the school roof or floors), financing for running costs – ad hoc funding for minor repairs (e.g. wallpaper, toilets, curtains) – is often requested from parents.

Two reasons may explain the lack of adequate public funding for schools: misappropriation (corruption) and mismanagement of resources.

Corruption

In a country where corruption is endemic, the education sector is no exception. All levels of education are deeply affected by corruption (Klein, 2012, p. 173). In 2017, around 50% of the respondents to the Ilko Kucheriv Democratic Initiatives Foundation survey perceived corruption in schools to be widespread, while 10% of those who paid a bribe did it in schools. (Sukharyna, 2017, pp. 7-8) The OECD has identified the following common corrupt practices that undermine the Ukrainian education system:

> …*numerous violations of education integrity, such as obtaining preferential access to school and pre-school education through favours and bribes; misappropriation of parental contributions to schools, undue recognition of learning achievement in schools; conflict of interest through paid supplementary tutoring by classroom teachers; textbook procurement fraud.* (OECD, 2017, p. 16)

In addition to the central and local public budgets, parents' donations to schools constitute an essential, informal source of funding.[10] The so-called 'parents' committees' – self-organized, mostly informal groups of concerned parents – are responsible for monetary issues, like providing funding for classroom needs, collecting informal fees from parents for each student every month, or collecting money for school maintenance (Horban, 2018). The practice of donations that are perceived as an informal 'fee' for pupils who enter

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7- Source: briefing paper by the Ministry of Education, which was provided to the research team by the State expert group on budgeting issues of the Directorate of Strategic Planning and European Integration of the Ministry of Education and Science.

8- Source: briefing paper by the Ministry of Education, which was provided to the research team by the State expert group on budgeting issues of the Directorate of Strategic Planning and European Integration of the Ministry of Education and Science.

9- To get the idea of the magnitude of this practice: 'Parents in Kherson contribute UAH 16.5 million a year on average, while in 2017, UAH 16.3 million in *unutilized education subvention* from the state budget was left in the city's budget' (emphasis added). *Source:* euukrainecoop (2019) EU finances initiative on transparent school budgets. Available at: *https://euukrainecoop.com/2019/02/08/114612/*

10- According to the survey conducted by the Ilko KucherivDemocratic Initiatives Foundation, in 2015 more than 90% of the surveyed parents had to donate money for the needs of their children's school. At the same time, 51% of parents admit that they donated money without getting a proper receipt. *https://dif.org.ua/article/shkola-ochima-batkiv-vchiteliv-ta-direktoriv-shkil-za-rezultatami-sotsiologichnogo-opituvannya*

the first grade is also popular in Ukrainian schools (Antoshchuk, 2018; Homaniuk et al., 2020). However, as donations by parents are mostly in cash, there is no system to control money flows and make schools or parents' committees accountable. Moreover, the practice of school administrators keeping the donations in cash instead of keeping funds in a special bank or treasury account is widespread (Antoshchuk, 2018). As a result, donations entail significant corruption risks. First, because money is usually collected in cash, making it impossible to trace misappropriation; and second, there is a risk of double-funding, as the local DoE and parents may provide funds for the same requests.

Mismanagement

Although the funding scheme for schools is highly vulnerable to corruption, misappropriation of resources is not the only problem that causes shortages. Mismanagement of resources, including poor budgetary planning, inefficient allocation of funds, and lack of audits, raise other important issues. One indicator for such mismanagement is a surplus of school subventions. These subventions are transferred from the State to the LPAs, and are distributed to schools by local DoEs. An analysis by the civil society organization NGO Union Fund (Ob'yednannya) shows that, in 2018, the surplus of subventions for Ukrainian schools exceeded UAH 4 billion (ca. EUR 135 million) (Antoshchuk, 2019a), a situation largely due to a lack of evidence-based policy making (interviews, Director of the Ukrainian Institute of Educational Development; MES expert on finance). For instance, funds for school maintenance are often used re-actively, that is to say only once the problem can no longer be ignored, instead of using them more pro-actively, in advance for modernising the schools. As a result, authorities only have a fragmented view of school needs, since requests are usually communicated individually by letter.

Another reason for financial mismanagement has to do with the poor communication between school principals and local DoEs. Major tensions arise during the process of planning the school budget. According to the formal procedure,[11] school principals assess the school's needs, calculate the school budget, and apply for funding to the DoE. Informally, however, the DoE has already communicated to school principals its own list that only takes into account the needs that they would normally agree to cover. While school principals could make further requests to local authorities for public funds, our respondents pointed out that school principals are reluctant to do so. A local activist explained that some school principals were afraid of creating conflicts with the DoE if they requested too much money. There are informal hierarchies: 'some school principals are more loyal and closer to the DoE, some are not, but everyone is afraid to jeopardise their relations with the DoE' (interview, NGO 'New Druzhkivka'). This perceived hierarchy is informal, and since making requests for funding is not a violation, the DoE cannot formally exercise its authority to punish school principals or schools. Nevertheless, it is the DoE that appoints school principals and dismisses them,[12] and by being the ultimate decision maker in budget planning and procurement, they do indeed have much leverage over school principals.

Finally, there are bureaucratic obstacles preventing schools from managing funds effectively. Financially, very few schools are 'autonomous' in the sense of having their own bank account and being able to manage their budgets themselves. Usually, school finances are centrally managed by accounting departments in the DoEs. Schools are then responsible for drafting their own budgets, based on the expenditures authorised by the DoE accounting department. Exceptionally, some schools may be allowed to manage their funds themselves by having an accountant and an account in the local branch of the State Treasury, but this is decided by the DoE.[13]

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11 · Articles 3, 32 and 37 of the Decree 228 of the Cabinet of Ministers of Ukraine 'On the Order of formulation, consideration and adoption of budgets of state-funded institutions and on main requirements thereto' as of 28.02.2002 (with changes and amendments). *https://zakon.rada.gov.ua/laws/show/228-2002-%D0%BF*

12 · This situation has been eased with the introduction of open competition for school principal positions country-wide, where a selection committee ranks candidates and makes recommendation for selection. The selection committee includes representatives of the LPA (usually Deputy Mayor), a representative of the DoE, and a representative of parents' and principals' organizations. (Art. 26 of the Law of Ukraine 'On general secondary education' amended on 05.09.2017, Law No. 2145-VIII)

13 · Articles 3, 32 and 37 of the Decree 228 of the Cabinet of Ministers of Ukraine 'On the Order of formulation, consideration and adoption of budgets of state-funded institutions and on main requirements thereto' as of 28.02.2002 (with changes and amendments). *https://zakon.rada.gov.ua/laws/show/228-2002-%D0%BF*

This is a rare occurrence, however, for several reasons. First, accounting for public funds is complicated and mistakes may be costly, and schools cannot attract professional accountants due to low salaries. This increases each school principal's personal risk of losing their position or having to pay fines in case of mistakes after a State audit. From the perspective of LPAs, school principals are not skilled enough to manage school funds, decide on procurement, and report back; as a result, the DoEs are hesitant to grant schools financial autonomy.[14] Against this background, the process of requesting additional funding is cumbersome as it requires navigating a chain of approvals, and it takes time to formally receive the funds from the DoE. It also requires an extra effort in terms of accounting. Therefore, especially in cases of where repairs and hygiene products are urgently needed, it turns out to be easier just to collect the necessary funds from parents.

Legislation on transparency

The requirement for transparency in funding for secondary education is entrenched in Art. 30 of the Law on Education (Parliament of Ukraine, 2017). According to this law, all educational institutions should function according to the principle of transparency. The law obliges these institutions to create open data sources, and to publish information on the amount of money received from the State budget and other sources, as well as to provide financial reports on expenditures. At the same time, the Law on Access to Public Information requires all institutions including educational institutions funded by State and local budgets to publish their incomes and expenditures (Parliament of Ukraine, 2011: Art. 13-15). In addition, the Action Plan on Reforming Secondary Education for 2017-2029 foresees the implementation of a compulsory mechanism for disclosing all financial flows in schools – no matter whether the funds are provided by the State budget or by donations (Cabinet of Ministers of Ukraine, 2017).

Box 1. Legislation on transparency in education and open data

Art. 30 § 3 of the Law on Education (Parliament of Ukraine, 2017)

Educational institutions that receive public funds and their founders are obliged to publish on their websites estimates and financial statements on the receipt and use of all funds received, information on the goods, works and services received as charitable donations, indicating their value, as well as funds received from other sources not prohibited by law.

Art. 101 §1 of the Law on Access to Public Information (Parliament of Ukraine 2011, amend. 2015)

1. Public information in the form of open data * is public information in a format that allows its automated processing by electronic means, with free access at no cost, as well as facilitating further use.

Information providers are obliged to make public information available in the form of open data on request, publish and regularly update it on the unified State web portal of open data [*https://data.gov.ua/*] and on their websites.

* The list of data sets to be published in the form of open data, requirements for the format and structure of such data sets, and the frequency of their updating are determined by the Cabinet of Ministers of Ukraine in Decree Nr. 835 from 21 October 21 2015 On Approval of the Regulations on data sets to be published in the form of open data. (Cabinet of Ministers of Ukraine, 2015).

Educational institutions that receive public funds and their founders are obliged to publish on their websites estimates and financial statements on the receipt and use of all funds received, information on the goods, works and services received as charitable donations, indicating their value, as well as funds received from other sources not prohibited by law.

Despite these legal provisions, government authorities have not yet provided any tools for publishing financial information by schools, nor are there any mechanisms in place for checks and balances to ensure horizontal accountability of schools for not reporting. As a result, most schools are publishing financial reports on their

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14 · Interview, head of DoE, Kramatorsk

websites following no specific format. The result is data that are not only highly fragmented, but also rarely comparable or electronically readable across platforms and schools.

1.4 Open School Initiative

The project *OpenSchool in UA - Unified system of educational institutions' open budgets* was launched in 2016 to foster transparency and citizen participation with regard to school finance. As an outcome of the project, the Kherson civil society organization Union Fund developed the OpenSchool online platform[15] with financial support from the EU Anticorruption Initiative, Freedom House and the International Renaissance Foundation. In 2017, the new system was piloted in Kherson. As schools operate under the control of local authorities, memorandums were signed with 31 Ukrainian cities which joined the project.[16] Currently, 710 (ca. 5%) educational institutions are using OS. The following six OS screenshots *(Figures 1-6)* illustrate how the system operates.

Figure 1. OS Home Interface (screenshot)
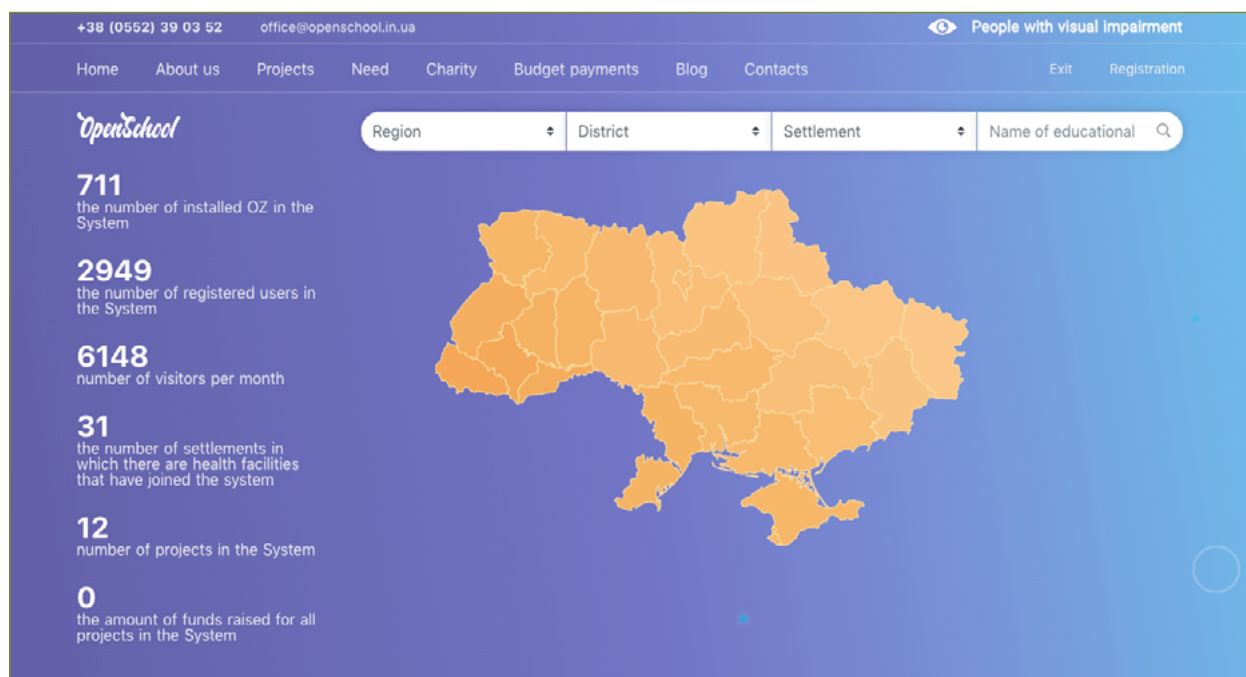
Source: OpenSchool official website **(**automatic browser translation UKR-EN) *https://openschool.ua/*

The developers of OS have said its purpose is threefold: first, to standardise financial reporting of educational institutions in line with the Ukrainian Law 'On Education' (Art 30); second, to enable schools to publish required information in the 'open data' format in line with the Law 'On Access to Public Information' (Art. 101); and third, to create an online platform for communication and interaction between school administrations, parents and private donors.

15-Official website: *https://openschool.ua/*
16-As of 23 August 2020.

> **Box 2. Purpose of the Open School system**
>
> The system is intended to facilitate the process of online reporting on the receipt and use of budgetary and extrabudgetary funds by educational institutions, on their needs, and also facilitate the dissemination of other important information to Internet users, required by current legislation of Ukraine. These reports should be presented in a simple format, understandable to the general public, using different types of charts when it is necessary to present the data in visual form.
>
> The system also allows educational institutions to raise additional funds online through crowdfunding, with payments being made online by bank cards (e.g. Visa, MasterCard).
>
> In addition, the system makes it possible for registered users to interact with each other and with the data published on the OS site (through commenting, voting and downloading information from the site to their personal computers in various data formats where appropriate).
>
> *Source:* Union Fund (2019: 7)

OS provides a platform for educational institutions to publish three types of financial information, namely, on their needs, donations and budget payments (*Table 1*). The underlying assumption for structuring financial information is that any school funding – from the public budget or from donors (in the form of funds, goods, services) – is only justifiable if there is a need for this funding. In other words, the funding is provided only upon specific demand. This demand may be funded gradually from different sources, or it may be satisfied or 'closed' at once by one financial source (budget or donations). The system provides an opportunity for school principals to submit a request to local authorities for the funding of a specific need. In addition, registered OS users (mainly parents) can comment on and rank the different needs that their school publishes.

Figure 2. Visualisation of a school budget
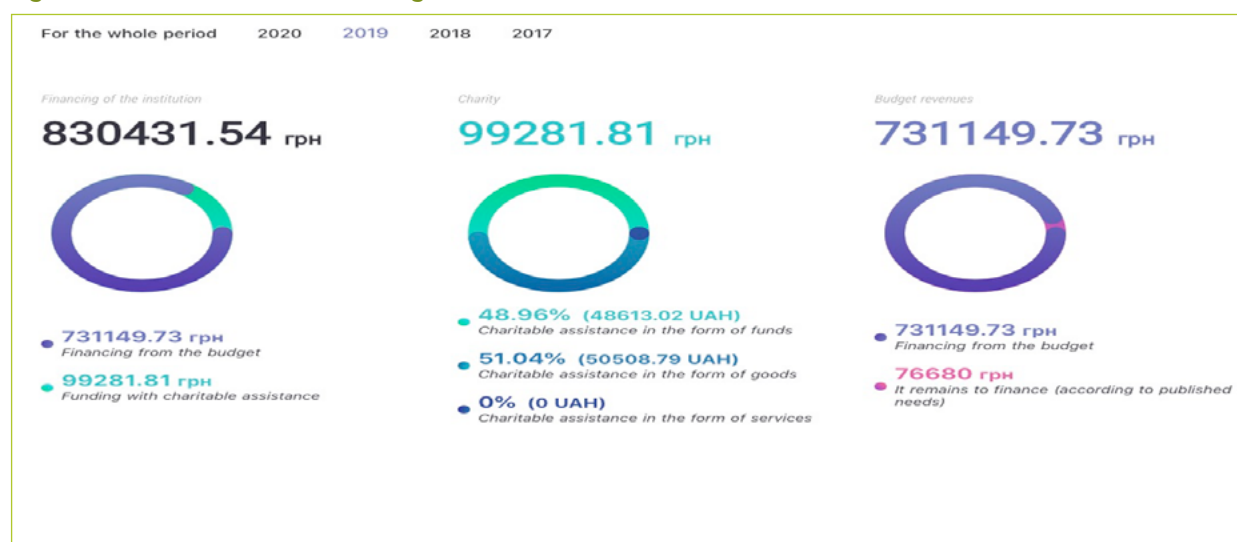
Source: OpenSchool official website (screenshot; automatic browser translation UKR-EN) *https://openschool.ua/*

The information about funding needs is generated in the system through the regular synchronisation of OS with the relevant data from the E-data portal (*https://spending.gov.ua*): technically, each public institution has an individual code (ukr. код ЄДРПОУ) extracted via the application programming interface (API). Each budget payment has a code designating the nature of the budget expenditure (KEKB).[17] The combination of

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[17] The financial transactions from public budgets at both national and local levels of governance are classified according to specific categories of budget expenditures (ukr. abbr. KEKB). The list of categories is defined in the Order of the Ministry of Finance of Ukraine 'On budget classification' *http://zakon.rada.gov.ua/rada/show/ v0011201-11*

institutional ID numbers and the payment code allows automatic analysis and visualization of all the financial transactions of a school. (e.g. *Figure 3*).

Figure 3. Visualisation of school needs

Note: Translation of school needs legend (top to bottom): stationary, maintenance of equipment, other goods, other services, payments for contracted workers, staff salaries, Note: Translation of school needs legend (top to bottom): stationary, maintenance of equipment, other goods, other services, payments for contracted workers, staff salaries, taxes and dues on staff salaries, use of goods and services, materials and equipment, medical consumables and bandages, food, payment for services (except utilities), business trip expenses, heating, water supply, electricity. In the bubble on the diagram: food

Source: Union Fund 2019, 17 (xcreenshot)

Once a school has created an OS profile, the system automatically generates the data about all its financial transactions since 2015. The school's OS administrator is responsible for confirming each payment that has been addressed to the school's ID, indicating the source of payment – charity or budget – and assigning the payment to a specific need, if that has not already been done automatically. Thus, every time the e-data portal registers a financial transaction with the ID of a school, the information about the amount, the need and the supplier is displayed in the OS school profile of the school, either as a table or a chart.

Figure 4. Overview of financial transactions covered by the public budget

Name OZ	Payer	Provider	Purpose of payment	Sum	Date of payment
Kramatorsk comprehensive school of I-III degrees №26 of Kramatorsk city council	Kramatorsk Department of Education	Equation of capital construction and	617321; 3132; full payment for fire safety systems, fire alarm systems for secondary schools №26;	5620.44	00:08 Join Date 14.08.2020
Kramatorsk comprehensive school of I-III degrees №26 of Kramatorsk city council	Kramatorsk Department of Education	LLC "SPE" POZHBUDSERVICE "	617321; 3132; full operation of fire alarm systems before the alarm under the secondary school №26;	132759.76	00:08 Join Date 13.08.2020
Kramatorsk comprehensive school of I-III degrees №26 of Kramatorsk city council	Kramatorsk Department of Education	LLC "SPE" POZHBUDSERVICE "	617321; 3132; full operation of fire alarm systems before the alarm under the secondary school [26];	281917.91	00:08 Join Date 13.08.2020

Diagram of KEKV published needs	0 грн
UAH 5500 (Use of goods and services)	
UAH 20,000 (Items, materials, equipment ...)	
1500 UAH (Medicines and bandaged ...)	
0 UAH (Food)	
237205.35 UAH (Payment for services (except utilities ...) ●	
0 UAH (Travel expenses)	

Vendor chart	0 грн
1216576 UAH (LLC "Children's and sports grounds")	
UAH 599532.01 (New X Trade LLC)	
UAH 425,309 (Engineering Professionals LLC)	
414677.67 UAH (LLC "NVP" POZHBUDSERVIS ")	
UAH 345,263 (Coal Construction Service LLC)	
UAH 257970 (Kramteploplast LLC)	

Source: OpenSchool official website (screenshot; automatic browser translation UKR-EN) *https://openschool.ua/*

Private donations can be made to schools in the form of funds, goods or services. Currently, there are three options for receiving such donations: cash donations, electronic payment to a special school account in the State treasury, or to a foundation that operates at a school. In case of cash donations, the OS administrator has to manually report the donation, while in the other two cases, reporting of the received funds and their purpose is generated automatically. Finally, the school can also publish financial reports and attach receipts for all its expenditures.

Figure 5. Overview of financial transactions covered by private donations

Name OZ	Name needs	The required amount	Funded	Prof. at the expense of	Status	Date of creation	End date
Konstantinovsky institution of general secondary education of I-III degrees № 3 Konstantinovsky city council of Donetsk region	0611020; 2240; production of an estimate document, fire alarm system	12000	12000.0	Parents	Closed	08/22/2020	08/22/2020
Konstantinovsky institution of general secondary education of I-III degrees № 3 Konstantinovsky city council of Donetsk region	0611020; 3110; sports set for sensory room: Swedish wall ...	8185	8185.0	Parents	Closed	06/06/2020	06/06/2020
Konstantinovsky institution of general secondary education of I-III degrees № 3 Konstantinovsky city council of Donetsk region	0611020, 2240; current roof of secondary school №3; act of act а1 from 17.12 ...	181056.55	181056.55	Parents	Closed	05/16/2020	05/16/2020

Source: OpenSchool official website (screenshot; automatic browser translation UKR-EN) *https://openschool.ua/*

The OS system also provides schools with the opportunity to request additional funding for projects. Schools may obtain such funding, for instance, through crowdsourcing, in which case they need to provide information about their projects online, just like when they require additional resources to finance their needs. The difference is that in OS the description of school needs and reporting about the necessary funds are standardised, while the information about projects is different for each individual project, and thus cannot be standardised.

Another difference between funding for school projects and school needs is that project donations are deposited into the account of the Union Fund, which also takes a certain percentage of the deposits to cover administrative costs.

Figure 6. Example of a project description
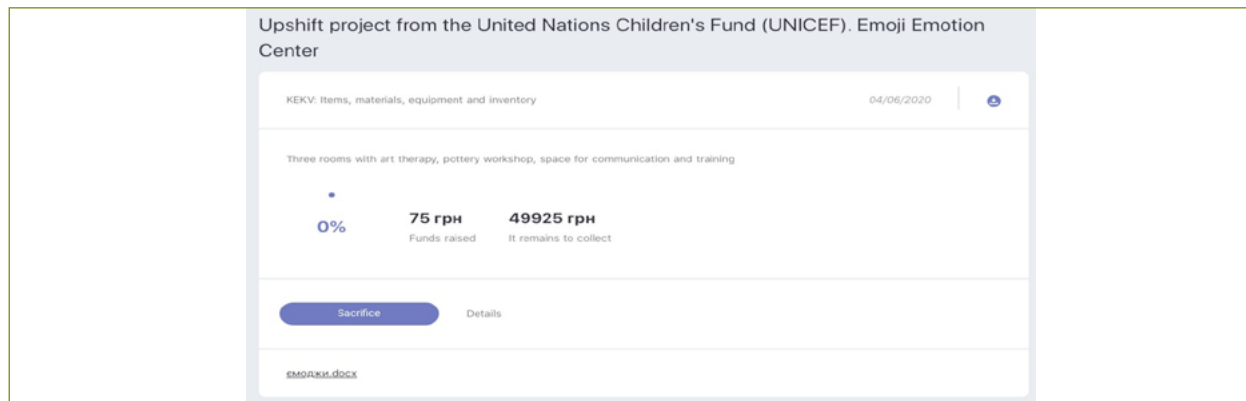
Upshift project from the United Nations Children's Fund (UNICEF). Emoji Emotion Center

KEKV: Items, materials, equipment and inventory   04/06/2020

Three rooms with art therapy, pottery workshop, space for communication and training

0%   75 грн   49925 грн
      Funds raised   It remains to collect

Sacrifice   Details

смоджи.docx

Source: OpenSchool official website (screenshot; automatic browser translation UKR-EN) *https://openschool.ua/*

All the data on the OS platform are available either as an overview of all schools with search options, or as a profile of an individual school.[18] The overview is provided in the sections 'Projects', 'Needs', 'Donations', and 'Budget Payments'. The profile of a school is pre-structured: compulsory information includes contact information of the school, its needs (open or partially 'closed'), overview of budget funding, overview of received money, goods, and services, and of any used donations, annual estimate of costs, financial requests to LPA, and a list of services that a school might provide for profit.

OS data are publicly available and comparable. The technical instructions for accessing this information in the form of open data (format JSON) via API are provided in the Blog OpenSchool.[19] With open data one can analyze and compare regions, schools, trace different reporting time sequences, amounts of budget income and expenditures.

> **Box 3. Technical data of the OS system**
>
> After running a test version of OS for two years, the Fund 'Union' launched in 2020 a new version of OS that has the following technical peculiarities:
> - The system is implemented with some functionality in Perl
> - The website requires the use of security certificates Transport Layer Security/Transport Layer Security (SSL/TLS) for work in line with the https protocol.
> - Key browser setup is for Google Chrome, with support for further browsers: IE11+, Edge, Firefox 42+, Chrome 47+, Safari 9+, Opera 35+.
>
> The system enables integration with external software for:
> - e-data import from unified State web portal for the use of public funds (*https://spending.gov.ua/*) via API
> - online payments: Portmone.com and PrivatBank
> - user authorization via Google and Facebook
>
> *Source:* Union Fund (2019: 7)

18-The possibility to have an individual school profile that does not accept advertising is desirable (Antoshchuk, 2019b).

19-OpenSchool Blog: API System Data Access (v.1.0) *https://blog.openschool.in.ua/?page_id=319* .

Table 1. Financial information captured under OS

Type of in-formation		Source of data	Functions attached
Needs			
	Description: name, description, amount, KEKB, reference to the tender in ProZorro (if available), reference to the funding request that the school /principal submitted to local authorities (if available)	Description is provided by an OS administrator	Search – by region, municipality, school, period of time, status of a need • Ranking of needs – registered users can rank published needs (scale 1 to 5) within own school • Funding requests to LPA – a school principal can submit a request for funding a need to local authorities; if funding is available, the request and its status (submitted/declined/ (partially) covered) is visible in the profile of the school • User comments – registered users can comment on individual school needs, as well as respond to other users' comments • Donation – anyone can donate online for a school need either to an account of the school or to a foundation (if registered at the school) • Receipt for donation – automatically issued if money is donated to a school via online transfer
	Status: open/partially closed/ closed, including information about the source of funding or service/ goods provider	Automatically generated by OS system through deduction of requested and collected funds	
	Reporting	OS administrator uploads receipts and information about the source of funding or service/goods provider; or the system generates information automatically from E-data if it's a budget payment	
Projects			
	Description and reporting are not pre-defined	OS administrator provides description and reporting about projects	Donation Reporting
Donations			
	Amount and date of donation	Cash donation: OS administrator enters the data manually. Online donation: data is generated automatically	Search – by region, municipality, school, period of time, type of donation • Visualisation – indication of the share of donations (all types) in a school's overall budget • Overview of covered school needs (KEKB-diagram), their ranking and reports, as well as of suppliers who have been paid by donations
	Source of donation: parents/private donors	OS administrator /E-data	
	Source of donation: parents/private donors/undefined	OS administrator /E-data	
	Status: received/used	OS system	
	Form: money/services/goods	OS administrator	
Budget payments			
	Status: distributed/unallocated	E-data	Search – by region, municipality, school, period of time, status of budget payment • Overview of covered school needs (KEKB-diagram), their ranking and reports, as well as of suppliers who have been paid by the public budget • User comments – registered OS users can comment on individual school payments, as well as respond to other users' comments
	Source of budget payment: name, ID, bank information	E-data	
	Needs covered: purpose of payment in line with the unified economic classification of public budget expenditures KEKB	E-data based on IDs, assigned to payment	
	Recipient of expenditure		

Source: Authors' compilation

OS founders have identified three target groups of stakeholders, who benefit from the published information in various ways: schools, parents and private donors (*Table 2*).

Table 2. What different stakeholders can do with the OS system

School	Parents	Private donors
Be as transparent and open as possible • Be innovative • Simplify the process of reporting to the DoE on the receipt and use of budgetary and extra-budgetary funds and donations • Comply with legislation on financial transparency • Build a dialogue between the administration and parents, thereby increasing trust in school principals, teachers and the Ukrainian system of education • Raise additional funds for the needs of the educational institution and the educational process by crowdfunding • Accept donations made online with bank cards • Accept payment with bank cards for services • Build own non-commercial websites[1]	Monitor which school needs are covered by the local budget • See schools' reports on the use of donations • Get an overview of all information about donations to the school (who, how much, for what, when) • Find out what 'open' needs there are at the school • Cover school needs through private donations via online payment • Participate in addressing the primary needs of schools • Conduct a dialogue with the school administration • Support schools in fundraising campaigns	• Access information about online funding for educational institutions • View all reports of received and spent funds • Monitor the process of raising funds for the specific needs of educational institutions

1.5 Research design

The Open School in Ukraine case study analyses the short- and long-term outcomes of this open government (OG) initiative in education, and identifies what prerequisites are necessary to ensure a positive impact. Special focus is on such core aspects of OG as participatory processes and use of open data in education. In particular, we are interested to learn under which conditions open data and participatory processes can reduce corruption, increase efficiency of financial flows, ensure equity and improve quality of education. Finally, the analysis provides insights on challenges and limits of the OG initiative, as well as on risks associated with OG in education.

Case selection

The case selection is based on the maximum variation sampling at the three interconnected levels: at regional, municipal and school level. At the time of research design, the Open School portal was active in 13 of the 24 regions,[20] but its uptake by schools varied between and within these regions. Following an exploratory interview with the Open School project manager, we opted for the Donetsk oblast (government-controlled, *Figure 7*),[21] because there is maximum variation in terms of impact of the initiative as well as variation among its schools' financial management structures.

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20 - According to its Constitution, Ukraine is administratively divided into 25 regions – 24 oblasts and the Autonomous Republic of Crimea. Due to its annexation by Russia in 2014, Crimea is at present not under control of the Ukrainian government, therefore open government initiatives are currently only possible in the 24 regions. Two of the regions – Luhansk and Donetsk oblasts – are however only partially controlled by the Ukrainian government because of the ongoing military crisis.

21 - An important particularity of Donetsk oblast is the military conflict going on since 2014. The Ukrainian government controls about a half of the region, while Russia-supported military groups have captured the other half of the region. Economically, the region has become one of the poorest in Ukraine since its mines and other production facilities were seized by the military groups. At the same time, multiple initiatives by international donors are supporting alternative development strategies and the region's shift from heavy industry to social entrepreneurship and creative industries.

Figure 7. Donetsk oblast reference map. Highlighted cities were selected for research

Source: https://reliefweb.int/map/ukraine/ukraine-donetsk-oblast-reference-map-june-2019
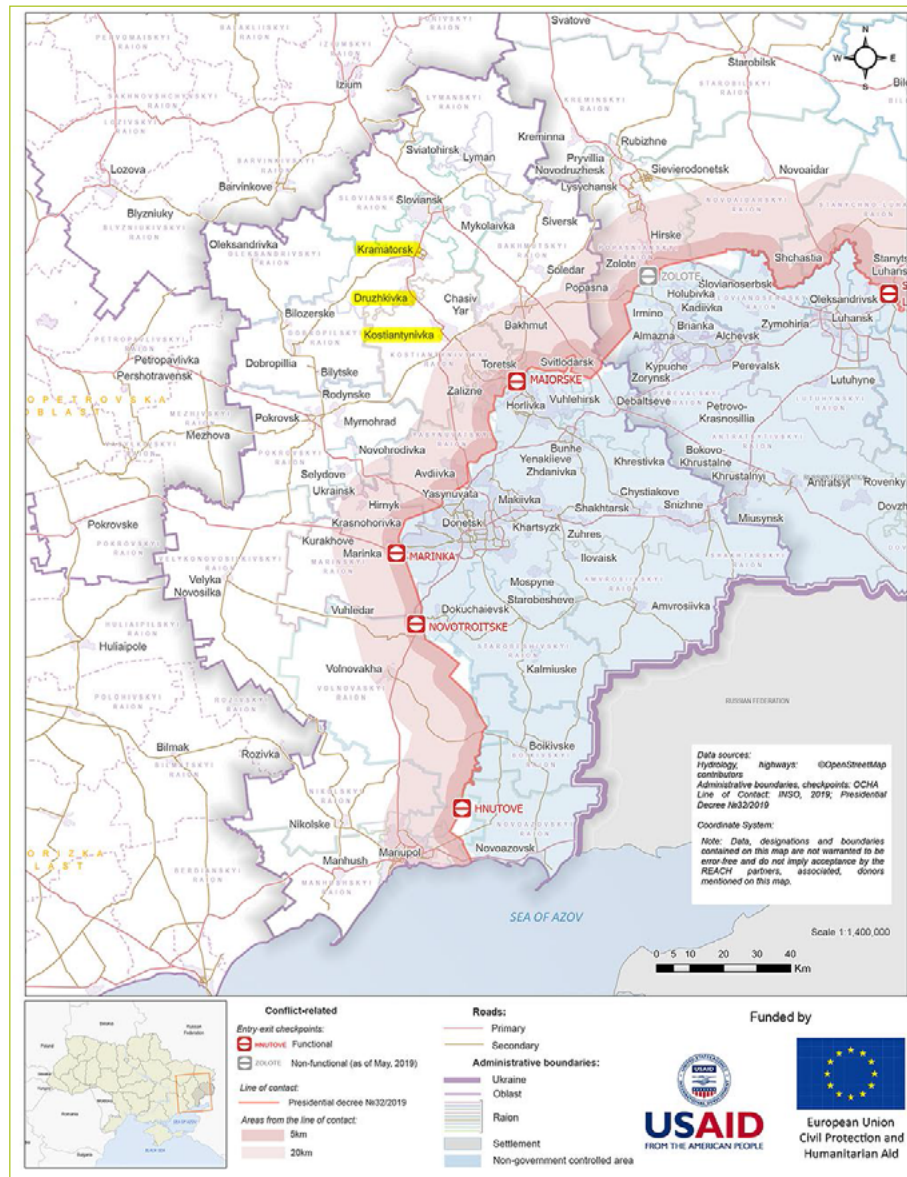
To capture variations in the socio-economic backgrounds of the school population, we selected three cities that are using the Open School system. The first is Kramatorsk, an urban, relatively well-off area, with a population of about 160,000, which is the temporary administrative centre of the Donetsk oblast (the city of Donetsk is not under Ukrainian government control). For the semi-urban areas, we have selected Druzhkivka (ca. 60,000 people) and Kostyantynivka (ca. 73,000 people). The choice of the two cities in semi-urban areas is explained by the different approaches to fiscal management used in schools of both cities: in Druzhkivka, all schools have centralized accounting, while examples of autonomous accounting can only be found in Kostyantynivka (Interview with the heads of the education department in Druzhkivka and Kostyantynivka).

The selection of schools covers maximum variation with regard to the form and outcome of OS system usage (Annex 1). In total, 13 schools participated in the study, 8 of which are located in a semi-urban context (out of 26 schools in Druzkivka and Kostiantynivka), and 5 are located in an urban context (out of 39 schools in Kramatorsk).

Data collection

The data were collected in three ways:[22] first, 12 city-level focus groups were organized with school principals, teachers, parents, school-level Open School administrators and students (see Annex 2). In addition to the focus groups, 24 semi-structured interviews on the national and local level were carried out. Finally, a survey was fielded to 200 respondents, with 117 parents and 68 school personnel representatives having filled out the questionnaire (see Annex 3). Most of the school personnel representatives were surveyed in person at their schools, and most of the parents were surveyed by telephone. The sampled respondents cover 13 schools. On average, 9 questionnaires per school were completed.

The collected data reflect a significant gender unbalance present in the education system of Ukraine.[23] Almost 80% of staff in the education sector are female. This number is even higher among the teachers in secondary schools. In contrast, 40% of school principals are male. Most respondents completed tertiary education (59% of parents and 97% of school personnel).

1.6 Structure of the report

Following this first chapter, which provided background information on the general context and outlined the methodology of case selection and data collection, Chapter 2 describes the implementation framework of the OS initiative, including the mapping of key stakeholders, their skills and capacities. In Chapter 3, we analyse access to information and participation models in use for the OS initiative. Chapter 4 covers accountability models, while Chapter 5 assesses the short-, medium- and long-term impact of the OS initiative. Chapter 6 provides an overview of the conditions for success and strategies for improvement. Finally, the study validates the assumptions tested through the research and provides recommendations for decision makers.

22- Data collection in the Donetsk region was conducted during 14-18 October 2019 in Kramatorsk, Druzhkivka and Kostiantynivka by a team of four researchers who worked in pairs (moderator/interviewer and protocol writer/assistant). The interviews with national-level stakeholders in Kyiv were conducted during 18-22 November 2019. The survey of parents and school personnel took place from October 2019 to February 2020.

23- http://razumkov.org.ua/upload/Gender-FINAL-S.pdf and https://mon.gov.ua/storage/app/media/gromadske-obgovorennya/2016/proekt-gendernoyi-strategiyi.doc

Table 3. Major characteristics of the OS initiative

Objectives	Target audience	Stakeholders involved	Funding	Monitoring & evaluation
Transparency: of school funding including budget, financial contributions and expenditures. **Accountability:** ensuring monitoring and accountability of school finance => decreasing both corruption and perception of corruption, while increasing trust among stakeholders. **Citizen engagement:** involving parents in monitoring and planning of school budgets. **Improved public service:** increasing efficiency and effectiveness in use and planning of school budgets. **Public sector information re-use:** for instance for raising additional funds by increasing incentives for private donations (e.g. from business)	Parents and engaged citizens (CSOs); Local education management *(upravlinnia osvity)*; School principals.	**Primary:** CSOs (national and local), local education management authorities, school principals and administrators, parents. **Secondary:** national legislator, international donors, teachers, local public authorities. **Potential stakeholders:** National Government (Ministry of Digital Transformation and Ministry of Education), local business, media.	Seed funding from international donors.	Some CSOs (e.g. Union Fund) with focus on education monitor whether and how schools are reporting their budgets on OS. But as there is no legal requirement to report, there is also no enforcement in case of non-compliance. There is only social accountability, as there is no horizontal accountability. No monitoring and evaluation mechanism is in place, as the use of the OS system is voluntary and at the pilot stage.

2 ● Open School platform implementation framework

2.1 OS facilitators and users

In 2016, the Kherson-based civil society organization Union Fund initiated the Open School (OS) online platform as a free, non-profit solution for achieving transparency in school budgeting. First developed for the NGO's own funding and donations, the online platform acquired additional implementation funding from the EU Anti-corruption Initiative (EUACI) and the International Renaissance Foundation (IRF) while Union Fund continued to host the platform and provide technical support. Exceptionally, Open School was developed by an NGO based not in Kyiv, but in Kherson.

Formally, OS implementation in local schools was initiated by a memorandum of cooperation signed between Union Fund and local education management authorities – the DoEs. In Druzhkivka (the first city in the region to introduce OS), local activists contacted the Union Fund and the local DoE. At the same time, school funding was one of the main topics in the mayor's election campaign, who promised to abolish monetary contributions by parents. OS was an appropriate tool for keeping this electoral promise. Thus, political will combined with the support of activists resulted in the rapid implementation of OS in schools. Kramatorsk soon followed the experience of Druzhkivka. In both instances, the political commitment to introduce such a system was in response to the numerous complaints by parents about school funding. In both municipalities, LPAs together with NGOs organized multiple consultations with school principals and parents to inform them about OS and to train them in how to use it.

The political context in Kostiantynivka was somewhat different. In this case, the local DoE initiated the general implementation of OS in schools in order to respect legislation on transparent school budgeting. In March 2019, the DoE 'informed' school principals about OS during a general meeting, and one month later all schools were already registered in the OS system (interview, Head of DoE, Kostiantynivka). At the same time, elected authorities of the municipality showed no interest in and even opposed the initiative. School principals were also very resistant to any kind of a top-down implementation. In the absence of monitoring, some school principals are even considering abandoning the use of OS.

Figure 8. Influence chain during OS implementation process
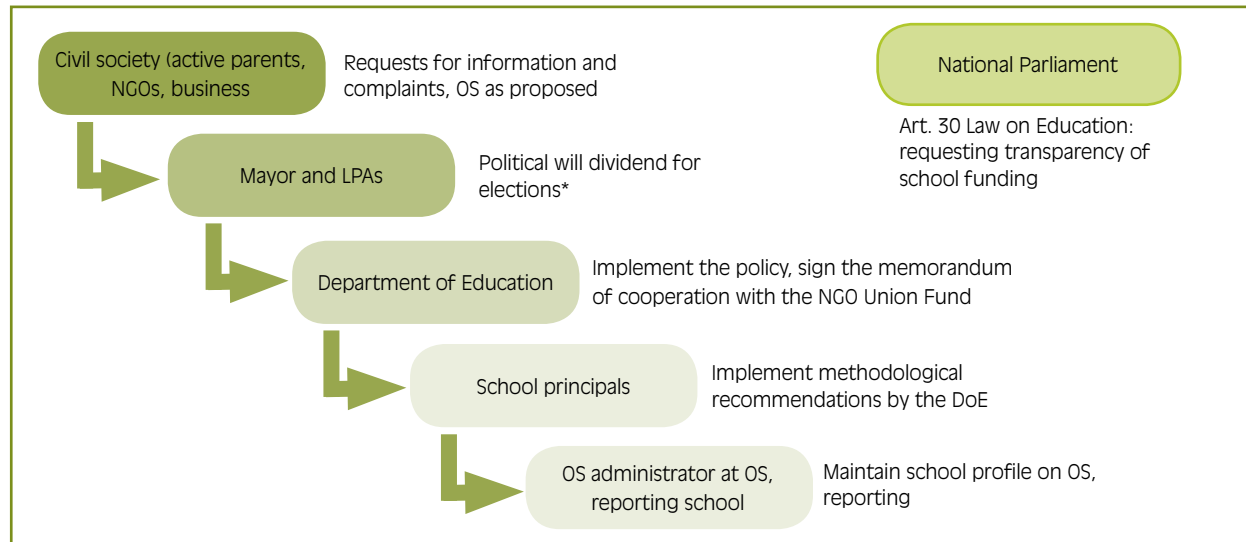
*The support of the mayor and of LPAs is helpful but not crucial for the implementation of OS. (e.g. in Kostiantynivka, no local authorities, only the DoE, were involved in OS implementation).

**Critical facilitators and users of OS are further described below.

National authorities

The primary decision-making body that sets up the national framework for the functioning of the education system, including its funding and requirements for transparency, is the parliament of Ukraine (Verkhovna Rada). The 2017 Law on Education and the 2020 Law on Secondary Education are good examples of open policy making, when the Parliament drew up the legislation in close consultation with key stakeholders, including representatives of civil society and professional organizations.

Three ministries are involved in OS implementation. The Ministry of Finance (MoF) provides e-data for OS operations and it maintains the unified State web portal dedicated to the use of public funds (*https://spending.gov.ua/*). OS uses the e-data via API to automatically generate records of financial transactions from the public budget – both at national and local level – and allows them to be viewed in the school profile. Then, if the system is implemented at the national level, both the Ministry of Education and Science (MES) and the Ministry of Digital Transformation (MDT) could become potential users, for inpstance when MES disburses education subventions to municipal budgets. Our interview respondents emphasised the importance of unified school data for assessing school needs directly in order to promote more effective budgetary planning. The MDT is now working on a new vision and improved conditions for education information systems. The OS founder is a member of an expert group at MDT that works towards setting up unique digital identifiers for schools in order to be able to assign expenditures corresponding to individual schools that are under LPA's centralised accounting.[24] OS already uses unique digital identifiers for schools that are registered on OS, and this practice is about to be implemented countrywide.

Civil society

The developer of OS, the NGO Union Fund, is based in Kherson in the south of Ukraine, but its outreach is countrywide. Founded in 2011, it aims to improve citizen engagement thanks to new technologies. Initially, the foundation had three missions: the development of local media, the development of local communities, and open data. Since then, it has increasingly focused on the use of open data for combatting corruption in educa-

24-Source: *https://www.fundunion.org/2020/02/7-openschool.html*

tion (e.g. the Open School project) in tandem with community development. Currently, a team of four people is leading the effort.

In the Donetsk region, two NGOs – 'Ukraine of Opportunities' (Kraïna mozhlyvostey) and 'New Druzhkivka' (Nova Druzhkivka) – have been crucial in pioneering the implementation of OS. Local activists established personal contact with the OS coordinator when they were searching for examples of good practice of parental self-governance at schools. In collaboration with the Union Fund, they started information campaigns for school principals and the DoE in Druzhkivka, as well as for other NGOs in neighbouring towns about the potential implementation of OS in local schools. In Kramatorsk, members of the NGO 'Kramatorsk Parents' Union' (Ob'iednannia batkiv Kramatorska) joined this campaign. At regional level, the campaign was also being supported by the regional coordinator of a civil society platform called 'Kyiv Dialogue',[25] which is a member of the Sloviansk City Council at the same time. Owing to those efforts, a presentation of OS to school principals from Kramatorsk and Druzhkivka (and several other towns) was organized at the end of 2018. Local DoEs of all three locations expressed their interest in cooperating. In sum, local NGOs in Druzhkivka enabled bottom-up implementation of OS and were essentially responsible for the active communication about the system via social media and face-to-face events, while also gaining support of the DoEs and creating coalitions with other civil society organizations (CSOs).

International organizations

International organizations and Western partners of Ukraine are strong supporters of democracy and civil society in Ukraine (Beichelt et al., 2014). OS is financially supported by the European Union Anti-Corruption Initiative (EUACI), Freedom House, the Embassy of the Czech Republic and the International Renaissance Foundation (IRF). EUACI supports not only initiatives that combat corruption (punishment for corruption crimes, mostly in cooperation with anti-corruption authorities), but also those that aim to prevent corruption in the long term (e.g. training for investigative journalists). The purpose of the EUACI programme is also to reduce the level of corruption through the introduction of innovative technologies that allow anyone to monitor processes using a data-based approach The EUACI representative comments:

> *We very much hope that Open School will become a national-level project, and that schools will use the system to report on their finances, publish needs and raise funds openly for Treasury accounts. This will encourage them to make open and transparent procurement, use state subventions, and funds from the local budget* (civil society expert, EUACI).

Local public authorities

Local DoEs play a critical role in the implementation of OS. In their capacity of 'school founders', they coordinate the implementation of OS in their communities. After signing a memorandum of cooperation with Union Fund, they advise schools on how to introduce the system. Because of hierarchic relations, school principals feel obliged to follow these recommendations regardless of their personal opinion about OS. DoEs further coordinate contacts between school administrators and OS developers, and initiate training for school principals and OS administrators on site.

For elected local authorities, i.e. the mayor and members of the City Council, education policy at local level has become one of the most important topics for gaining votes during the elections (interviews, deputy mayor, Druzhkivka; member of City Council, Sloviansk). Political will to introduce OS surged during the election campaign as a response to public unrest regarding extortion and parents' complaints about disparities between schools.[26] A comparison of two cities, one with high and the other with low political support for OS by elected authorities,

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25-A German-Ukrainian programme for supporting local civil society initiatives, active since 2005. More information: *https://www.kyiv-dialogue.org/uk/pro-nas/xto-mi-je.html*
26-Interviews, coordinator of the NGO 'Ukraine of Opportunities', and deputy mayor, Druzhkivka; member of the City Council, Sloviansk.

reveals that political will to implement OS certainly had an amplifying effect, but was finally not sufficient for ensuring success of the system's implementation.

School personnel

School principals and teachers who also act as OS administrators in school are critical for facilitating OS implementation. School principals oversee the implementation of the system in the school, decide on the type of information to upload on school profiles, control school profiles, and keep parents informed. School principals also appoint an OS school-level administrator, who fills out the OS school profile, updates information about the funds, and uploads bills, for example. This category of stakeholder (school principals and teachers) is the most hesitant towards innovation, as adopting OS requires a willingness – and ability – to change old habits and embrace new ways of communication and management of funds. Most of them are also struggling with the digitisation of work as they are used to working on paper. Teachers are significant users of the system: they are the main communication channels between the school and parents. Accordingly, they are best placed to inform parents about the system and about the needs for possible donations via OS.

Box 4. Context of OpenSchool introduction

OS was introduced in a context of 'reform fatigue'.* Ever since 2016, the MES has been encouraging the creation of school hubs – the so-called 'core schools' (oporni shkoly), which group together pupils and students from several under-staffed schools in areas with low enrolment in order to increase efficiency in resource use. This creates local conflicts about the location of core schools and causes uncertainty among staff regarding their workplace. In addition, primary schools are undergoing the 'New Ukrainian School' reform, which provides more funding to schools for salaries, teacher training and technical capacities, but also challenges existing methods of teaching, relations with parents and assumptions regarding quality education. Digitisation also creates a new challenge to schools: there are initiatives to set up digital student record books and report cards, but requirements for paper versions exist as well – a duplication of work that becomes an additional burden for school operations.

* FG, school principals, Druzhkivka.

Source: Union Fund (2019: 7)

Union of teachers and other education workers

The Trade Union of Education and Science Workers of Ukraine (TUESWU) is a nationwide Ukrainian organization that represents teachers, along with other education workers. It mainly focuses on the protection of the labour and socio-economic rights of its 1.5 million members.[27] In the Donetsk region, the TUESWU representative was aware of OS, but the union did not take part in any OS activities..

Parent associations

Parents are often considered as a collective actor, although the research shows that they have very different individual interests and opinions about OS. There is no central association of parents or PTA in Ukraine. Instead, there are active civil society organizations (CSOs) representing parents at the national and local level. In addition, every school has self-organized parent committees. These are informally organized by parents who are actively engaged either in their children's class or at school level. However, as only a small proportion of parents is actively involved, the legitimacy of CSOs representing parents is often acquired through such means as social media, outreach, or the number of subscribers and supporters they have.

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27 Source: *https://pon.org.ua/pro-profspilku/istoriya/*

For instance, 'Parents SOS' (Bat'ky SOS), one of the most influential CSOs, was invited to join the working group on the Law for Secondary Education.[28] The organization was founded in 2014 by two active mothers who joined together to protect their children against bullying and to protest illegitimate collection of money at schools. Today Bat'ky SOS is run by three people, but it has over 150,000 active followers on Facebook. It is not officially registered, and all the work is done by volunteers. At the local level, there are at least two similar organizations in Kramatorsk – 'Kramatorsk Parents' Union' and 'Mothers of Kramatorsk' (Matusi Kramators'ka); in Druzhkivka and Kostiantynivka, however, we did not identify any similar parent communities.

Parents

Individual parents are both facilitators and users of OS. They can influence local authorities through requests for information and complaints about funding for schools. They also constitute the target audience of OS, as the platform provides an opportunity for monitoring school budgets. Further, during the industrial recession that hit the region in the 1990s and again in 2014 due to the Russian-Ukrainian war, LPAs have been short of funding for education. In this context and by using OS, parents can participate and collaborate with schools and the administration to identify and address needs in schools, and to initiate an institutional audit of a school by the State Service on Quality of Education if they register systematic violations of students' or teachers' rights (Novosad, 2020).

Local business

The large enterprise NKMZ (New Kramatorsk Machine-building Factory) in Kramatorsk is a major funder of public services, including education in the city.[29] By means of its institutionalised philanthropic activities, NKMZ takes on some responsibilities normally assumed by the State and local authorities. Thus, local politicians affiliated with NKMZ increase their chances to be re-elected. When asked how the enterprise identifies the needs of education institutions and decides where to invest money, the assistant to the director, who is also responsible for philanthropy, replied:

> *The City is divided into 42 territorial districts. Even if the person from NKMZ does not win the district [in local elections], we put our people there anyway. Why? This person communicates with school and kindergarten principals, collects the list of requests from them. This person creates a list of needs, volume of work to be done, expenses for each electoral district. We collect and consolidate on one sheet all this information, and work strategically to carry out the programme. We also respond to ad-hoc needs during the year* (interview, assistant to the director; NKMZ, Kramatorsk).

Each NKMZ deputy (or 'curator') works with school principals to collect their list of what is needed for the school, establishing a personal contact that is highly important for monitoring the school's needs and the quality of work done. In practice, school principals report individually on what needs to be done at their school, which funds will be provided through the LPAs, and what they need from NKMZ. These informal structures and processes confirm the importance of personal communication and relations. In this context, the enterprise considers the OS platform primarily as an additional publicising tool to show parents how NKMZ financially supports schools. So, in cases of philanthropy, the OS function as a means to respond to school needs is of secondary importance.

Annex 4 provides a more detailed overview of stakeholders involved in OS implementation, their roles and responsibilities.

28-Another influential organization led by parents at the national level is the NGO 'Smart Education' (Smart osvita), but it focuses more on the content of education programmes than on OG-related policies.

29-As informed in the interview, NKMZ provided around UAH 182 million (ca. EUR 5.6 million) over the last four years to build roads, hospitals, schools, etc.

2.2 Stakeholder participation in educational planning via OS

OS is relevant at two particular stages of educational planning, namely resource allocation and policy implementation and monitoring.

Figure 9. OS in the educational policy and planning cycle
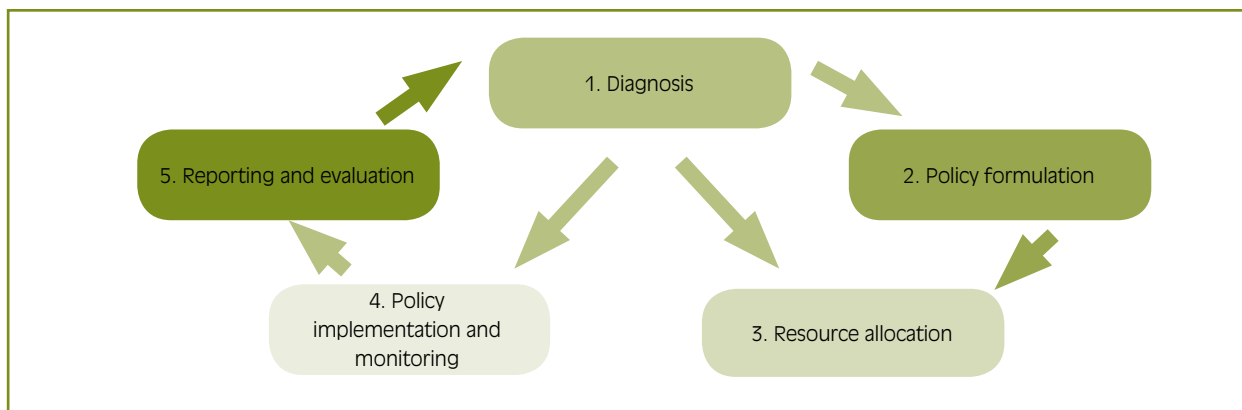
As regards resource allocation, most stakeholders report that the funding provided by LPAs is insufficient to equip all schools with necessary infrastructure of acceptable quality. It is thus common practice that parents contribute to school funding. This co-funding takes place in a grey legal zone, because it is often presented as compulsory. An online survey of parents in 2020 revealed that 84% of respondents were asked to donate money to school, while half of them faced such requests on a regular basis (Homaniuk et al., 2020, p. 39). Parents contribute money to cover the basic needs of their children at school (e.g. hygiene in the washroom, heating). Some 80% of those who were asked to make donations, reported that the requests were for cash payments, and only 11% were offered an option for online payment (Homaniuk et al. 2020, p. 41). OS provides the possibility for parents to donate in a transparent way for specific school needs. The case of Kramatorsk shows that local business is also an important source of school co-funding, and that transparency can prove useful for the business as part of its philanthropy strategies. Finally, based on the analysis of parental contributions over time, with OS, the local DoE can better plan and estimate future expenditures for all local schools. For example, the education budget for 2020-2021 in Kramatorsk will take into account information on parental spending in 2018-2019 (interview, LPA).

Another important function of OS at the stage of resource allocation is that schools can request funds more transparently from LPAs via the platform. Formally, the DoE provides funding for school maintenance. In order to obtain funding, school principals have to first send a formal request to the DoE. However, some stakeholders report that school principals encourage parents to cover these costs privately, since the process is easier. School principals explain that the DoE often communicates informally that they are short of funds, listing the items that school principals can request, and stating that funds will not be provided for any other items. At the same time, without transparent communication of school needs, effective budget planning is impossible. Our interlocutor from MES at the national level pointed out:

MES has no information about the local budget dedicated to education institutions, so it is impossible to coordinate national and local budgets for education. The requests of needs are submitted in the form of letters and we collect them via regional state administrations. It would however be good to receive this information directly and channel it into planning (interview, MES, expert on budget, Kyiv).

As regards implementation and monitoring, OS provides an opportunity for ensuring societal accountability of schools and DoEs as transparency of the school budget allows monitoring of the costs, income and expenditures. OS's simple user interface and easy-to-understand visualizations make certain that the financial information can be accessed and understood by parents and civil society even if they are not well versed in education system funding schemes. Moreover, OS users can compare school budgets between schools and, thus, monitor fairness of policy implementation by local authorities.

2.3 Overview of resources needed for OS initiative

Funding

The OS pilot version was technically developed by the NGO Union Fund in collaboration with IT-specialists for ca. USD 2000. In 2019, the technical update of the system cost approximately USD 20,000, or about EUR 17,000 (interview, NGO Union Fund). This funding was provided by the EU Anti-Corruption Initiative, the US embassy in Ukraine, the Renaissance Foundation, and Freedom House.[30]

OS is free of charge for schools and the DoE, although in OS 2.0 – in use since 2020 – some new features do require a fee: for instance, if users are making payments via OS or if a school has received funding for a project via the system, it charges a fee for each transaction. Neither LPAs nor schools provide any additional funding for OS implementation or its technical maintenance.

Human resources and training

School administrators oversee OS in their schools free of charge. It takes them two to four working hours per month, and mostly involves teachers in informatics. As a rule, school principals appoint OS administrators at their schools, but their responsibilities in overseeing the system's operation may overlap and cause confusion.

Union Fund provides technical assistance. OS administrators or the local DoE contact the OS project manager directly at the NGO to resolve any technical issues. A direct contact for technical support is also available on the online platform that OS administrators can use. Finally, in cities where there is an NGO that actively supports OS, administrators turn to that NGO for technical issues which they then transfer to the OS provider. Despite those available support options, some of the respondents wished they had a municipality-specific contact person.

Union Fund has provided training for OS administrators and school principals in all three locations studied, but this is perceived to be insufficient.[31] Also training for parents is rare, but some parents do join school personnel at the OS training sessions. And on YouTube, Union Fund shows short instruction videos for OS administrators.[32]

Parents are informed of OS in several ways, including DoE websites, school social media, the school website (if available), and school meetings. While the DoE websites are usually hard to navigate and not all parents have social media profiles, the most widespread way of informing them remains the school meetings. It is usually up to the school principal to decide if and what information should be shared. Outside of school, organized information campaigns are run only in Druzhkivka, by two NGOs. One school in Druzhkivka even had a poll about the use of OS with 92 parents participating.

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30 - Annual financial reports of the NGO are available at: *https://www.fundunion.org/p/blog-page_07.html*

31 - Additional training was conducted in the region in February 2020, after the fieldwork was completed. Source: *https://www.fundunion.org/2020/02/7-openschool.html*

32 - *https://www.youtube.com/playlist?list=PLHEThsuYBxPrrY2HneuE1Sbqm0M7qYuAk*

With regard to skills, OS users in semi-urban communities have frequently reported that low computer literacy and poor Internet access are obstacles to using OS.

2.4 Monitoring and evaluation

According to the Memorandum of Understanding and Cooperation that the DoE has signed with the Union Fund about OS implementation in local schools, the DoE is obliged to monitor the data that individual schools upload to the system. In practice, however, monitoring and evaluation of OS varies, as use of the system is voluntary. Some DoEs monitor OS implementation, but they do not have any legal means to enforce compliance, as the Head of the DoE in Kramatosk reports:

> *We have leverage only if school principals do not report about funding at all. The rest is voluntary, but for them it is not pleasant to be publicly shamed during the general meeting for not providing OS with the required data* (interview, DoE, Kramatorsk).

There are ideas, however, to incentivise the use of OS in the future, for instance through a school transparency ranking. The head of the DoE in Kramatorsk also highlighted the useful role that journalists and civil society organizations could play in monitoring the use of OS.

Some school principals have developed their own monitoring systems of how the OS system is administered. For instance, the principal in Kostiantynivka reports:

> *We do such monitoring ourselves. First, we did it once a month and then decided to do it only when funds are received, or when there is a need for funding. The Department of Education sometimes monitors OS, and at meetings we have learned that some schools are more active in this regard, some are less active or don't use OS at all. … We implemented OS for only two classes because we were worried that too much time would be spent on using it (interview, school principal, semi-urban).*

The survey shows some differences in the perceptions of parents and school personnel about opportunities to participate in OS monitoring. For example, while a majority of parents (65%) agree that their input would be used effectively, only a third of school personnel think so. Instead, a considerable proportion of school personnel did not even know how to answer this question (40%). Regarding stakeholder awareness of how to lodge a complaint, 39% of parents did not know how to do this while almost 44% knew about the complaint function – which suggests radically different levels of communication to parents and their understanding of OS. Among school personnel 26% of the respondents did not know how to answer that question, while only 30% knew how to lodge a complaint. Yet, the percentage of those who did not know how to lodge a complaint was almost four times smaller among school personnel than among parents (11% and 39% respectively) (see *Graph 1*). There were no significant differences from the general pattern when considered by context (urban/semi-urban).

Graph 1. OS monitoring as perceived by parents and school personnel
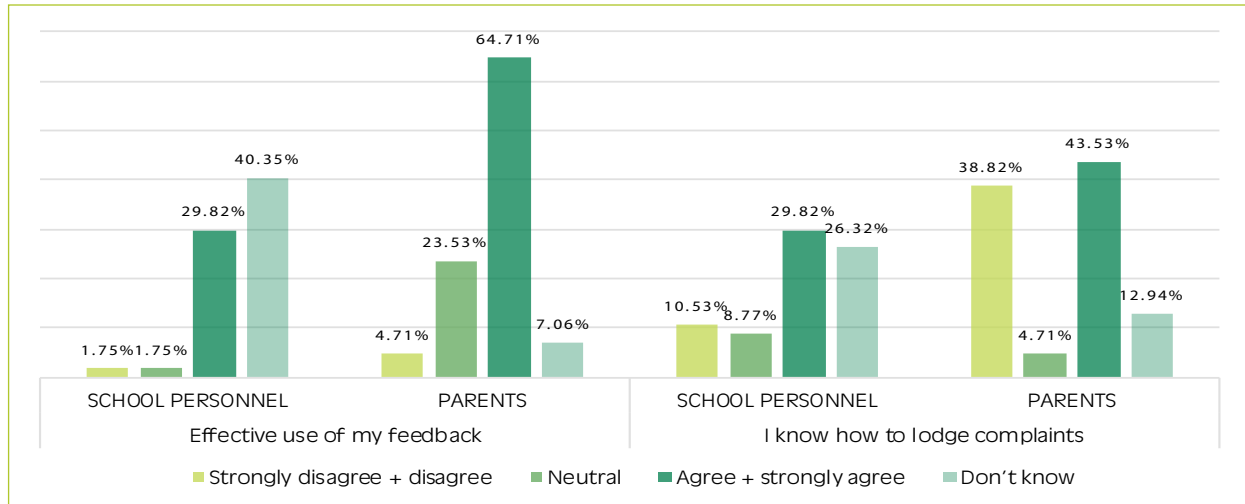
Note: n parents = 85, n school personnel = 57. Percentages were calculated from the relevant sample (parents/ school personnel), contexts combined. Options 'strongly disagree' and 'disagree' as well as 'strongly agree' and 'agree' have been combined.

Source: Authors' compilation based on original survey data

3. Access to information and participation models used in OS

3.1 Awareness of and involvement in OS: survey results

Awareness

According to the survey of 117 parents, 27% (both in urban and semi-urban) settings were not aware of Open School; 57% were aware of the initiative, while 15% remembered it after prompting. Thus, 73% of respondents were aware of Open School. It is interesting to note that parents in a semi-urban setting were more aware of Open School than those in an urban context: 79% vs 63%, respectively (see *Table 4*).

Table 4. Awareness about Open School among surveyed parents and school personnel

	Urban	Semi-urban	Total
Parents			
No	37%	21%	27%
Yes	1	64%	57%
Yes, after prompting	11%	18%	15%
Total	100%	100%	100%
School personnel			
No	10%	17%	16%
Yes	90%	67%	71%
Yes, after prompting	0%	16%	13%
Total	100%	100%	100%

Note: Urban parents = 46; Semi-urban parents = 71; Urban school personnel = 9; Semi-urban school personnel = 59. Percentages were calculated from the relevant sample (urban/semi-urban and parents/school personnel).

Source: Authors' compilation based on original survey data

In addition, *Table 4* shows that teachers and school principals were predictably more aware of Open School than parents: in this group of 57 respondents, 71% were aware of Open School, while a further 13% remembered it after prompting. Thus, 84% of school personnel – compared to 73% of parents – were aware of Open School and, thus, able to evaluate it further. Unlike among parents, school personnel in urban areas were slightly more aware of Open School than in semi-urban ones (90% vs 83%, respectively).

Survey results also indicated that among parents who were aware of Open School, the percentage of **parents with higher education**[33] was greater than among those who were not aware: 66% vs 41% respectively. Similarly, parents employed as professionals (those in jobs that required longer studies and training, such as health

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[33] Most of the parents contacted for the survey following recommendations by school principals had higher education (60% of respondents), while the rest had secondary education. This is an extremely high proportion compared to the national average (27% among a population aged 22 or over in 2016). Perhaps, school principals deal with a relatively small, more highly educated proportion of parents for school matters.

professionals) tended to be more aware of Open School than parents working in other professions (60% of those aware of Open School were professionals or associate professionals).

Involvement of parents[34]

Most of the parents reported not having been involved in any of the stages of Open School operations. However, the proportion of parents who were not involved in any stages of Open School was considerably higher in urban settings (83%, n= 29) than in semi-urban ones (61%, n = 56). In urban settings, the highest rates of non-involvement were recorded among parents with children in small schools, while in semi-urban settings, the least involved were reportedly parents whose children attended large schools (see Table 5 for a complete overview).

Parents across contexts (urban/semi-urban) and school sizes reported to have been most involved in the stages of implementation of OS, making changes in school management encouraged by the OS initiative, and providing feedback on OS (see *Graph 2*). Again, more parents in semi-urban settings (proportionally) reported being involved in those activities compared to those in urban contexts. Interestingly, parents whose children go to medium-sized schools reported to have been the most involved among parents in semi-urban settings. Unlike parents in the semi-urban context, urban parents reported having been most involved in making sure that the initiative operates as intended. This result is based on data from a small urban school, where parents reported not being involved in any other stages of the Open School initiative.

Graph 2. Involvement of parents in Open School stages, by context
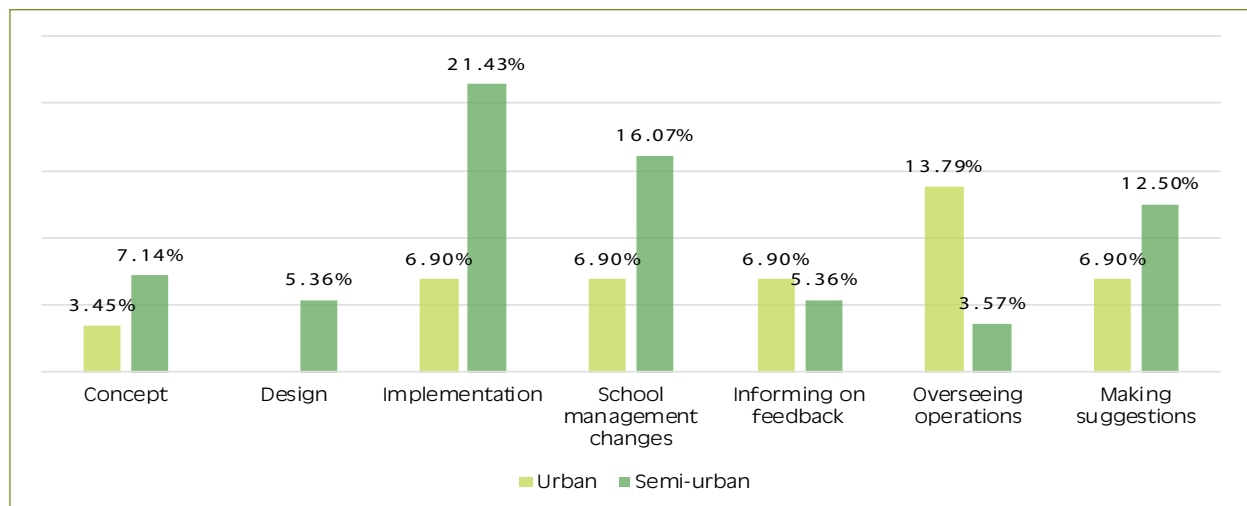
Note: n Urban = 29; n Semi-urban = 56. Percentages were calculated from the relevant sample (urban/semi-urban).

Source: Authors' compilation based on original survey data

34-Evaluation of survey results for involvement of parents and school personnel in OS; the perception of communication and evaluation of the initiative is based on the responses of parents, teachers, and principals who were aware of Open School. For parents, there were 85 respondents, and for school personnel, 57 respondents

Table 5. Involvement of parents in stages of Open School, by context and school size

	Urban		Semi-urban	
Type of involvement	**Medium school**	**Small school**	**Large school**	**Medium school**
Somehow involved (little+moderate+very)				
Concept	4%	0%	12%	0%
Design	0%	0%	6%	5%
Implementation	8%	0%	15%	32%
School management changes	8%	0%	15%	18%
Informing on feedback	8%	0%	6%	5%
Overseeing operations	13%	20%	3%	5%
Making suggestions	8%	0%	12%	14%
Not involved at all				
Concept	92%	100%	88%	86%
Design	92%	100%	94%	82%
Implementation	88%	100%	85%	55%
School management changes	92%	100%	79%	68%
Informing on feedback	88%	100%	85%	77%
Overseeing operations	83%	80%	97%	77%
Making suggestions	88%	100%	88%	73%
Not able to answer				
Concept	4%	0%	0%	14%
Design	8%	0%	0%	14%
Implementation	4%	0%	0%	14%
School management changes	0%	0%	6%	14%
Informing on feedback	4%	0%	9%	18%
Overseeing operations	4%	0%	0%	18%
Making suggestions	4%	0%	0%	14%

Note: n medium-sized urban school = 24; n small-sized urban school = 5; n large semi-urban school = 34; n medium semi-urban school = 22. Percentages were calculated from the relevant sample (urban/semi-urban and large/medium/small).

Source: Authors' compilation based on original data

In urban and semi-urban settings, the reported involvement of parents in the implementation of Open School is, in fact, based on the responses of parents who identified themselves as both parents and teachers (see *Table 6*). Half of the parents who reported involvement in OS implementation in urban medium-sized schools identified themselves as teachers as well as parents, while in semi-urban large schools such respondents constituted 60%. Similarly, half of the respondents who reported providing suggestions to Open School in medium-sized urban schools were also both parents and teachers. For all other stages, this group of respondents did not show any significant differences with other groups.

Table 6. Involvement of parents in OS who are also teachers, by context

	Urban		Semi-urban	
Parents who are teachers	**Medium school**	**Small school**	**Large school**	**Medium school**
Somehow involved (little+moderate+very)				
Concept	100%	0%	25%	n/a
Design	n/a	0%	0%	0%
Implementation	50%	0%	60%	29%
School management changes	0%	0%	20%	0%
Informing on feedback	0%	0%	50%	0%
Overseeing operations	33%	0%	0%	100%
Making suggestions	50%	0%	0%	0%

Note: n medium-sized urban school = 11; n small-sized urban school = 3; n large semi-urban school = 8; n medium semi-urban school = 2. Percentages were calculated from the relevant sample (urban/semi-urban and large/medium/small).

Source: Authors' compilation based on original data

Involvement of school personnel

In contrast to low parental engagement in OS, teachers, school principals and administrative staff report much higher rates of involvement in all stages of Open School. There is no significant difference in their involvement between urban and semi-urban settings. School personnel reported to have been involved most in the implementation of the initiative (51%), overseeing it so that it operates as intended (49%) and in making changes in school management encouraged by the initiative (39%). Yet, between urban and semi-urban contexts, there were some differences. For example, in urban schools, 67% of the respondents were involved in 'overseeing the initiative', while in semi-urban contexts 52% of the respondents reported having been involved in the implementation stage. Interestingly, about 44% of respondents in urban contexts reported having been involved in making suggestions for improvement (see *Graph 3*).[35]

Graph 3. Involvement of school personnel in Open School stages, by context
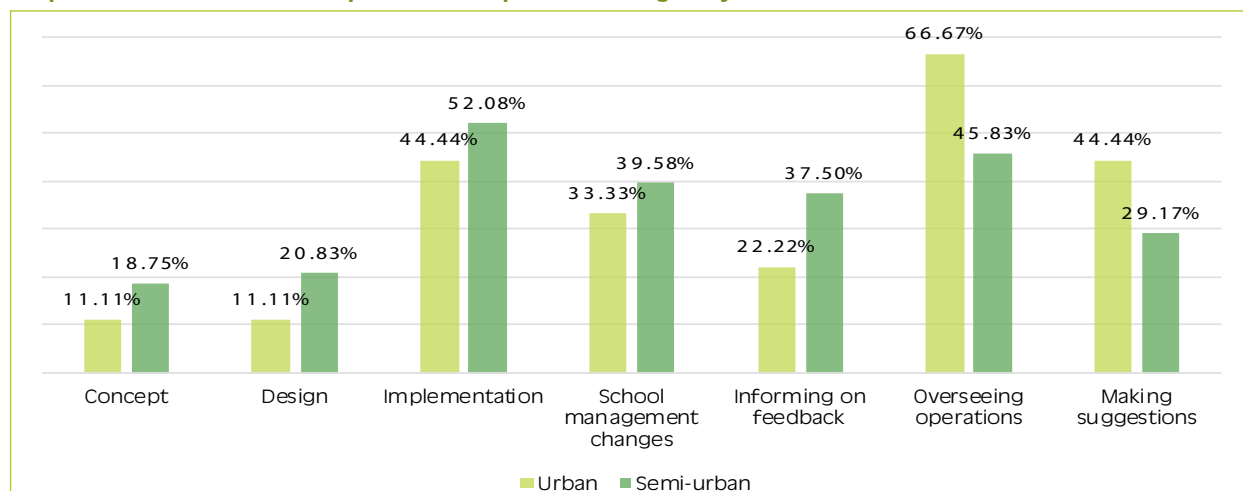
Note: n Urban = 9; n Semi-urban = 48. Percentages were calculated from the relevant sample (urban/semi-urban).

Source: Authors' compilation based on original survey data

35 For urban settings, only medium-sized schools were covered by the questionnaires for school personnel.

In sum, both parents and school personnel have been involved mostly in the implementation stage of the OS initiative, which is natural: school principals make decisions about implementation, while teachers are often the ones reporting on its effectiveness. Parents, in turn, drive OS implementation in several ways, i.e. by urging the school administration to adopt the system, by helping those responsible for OS to learn how to use the system, and by discussing the school budget and asking questions about it. Interestingly, both school personnel and parents report being involved in overseeing operations, and making sure the OS initiative operates as intended.

A relatively high percentage of school personnel (11% in urban and 19% in semi-urban contexts) report having been involved in developing the concept of Open School. While the platform was developed by an external party (e.g. NGO Union Fund), a part of school personnel claims to have come up with the idea of introducing it in their school. This reflects a process where the Open School concept was introduced directly, with teachers and school principals adopting the platform even before it was recommended by the Municipal Department of Education (especially in one of the semi-urban schools participating in the study).

3.2 Operationalisation of OS: Transparency, participation and collaboration

The Euromaidan revolution in 2014 mobilised civil society and became an impulse for change across Ukraine. And in 2015 the Parliament, in collaboration with civil society and under the pressure from Western donors, significantly improved the legislation on transparency and open data. Such momentum resulted in the development of multiple online tools for increasing transparency and citizen participation, as well as governmental platforms for open data.

Union Fund developed the Open School tool in close consultation with parents, school principals and DoEs. The NGO conducted interviews and focus groups with the main stakeholders. The pilot version of the software was tested in a dozen municipalities across Ukraine for two years. During the OS pilot phase, Union Fund set up a commission which provided recommendations on the system's compliance with the legislation on transparency in education. Technical feedback about OS functionality has been collected through personal communication between OS implementors and developers, although a focus group with school principals in Kramatorsk revealed that not all implementors contacted the developers when there were technical problems.[36] Based on the feedback of implementors, the online tool was significantly updated, and a new version became operational in January 2020.

In the cities being studied, school principals and system administrators reported that they had not received sufficient technical training on the system's operation. Several stakeholders suggested that LPAs could appoint a responsible person locally to contact in case of technical issues.[37] The main critique, however, was that the responsibilities for OS administration were not clearly defined. As a result, teachers with IT know-how at schools are taking care of the system without additional payment or clearly defined responsibilities (ca. 4 hours per month).

Another critique was that parents, who are potentially the main OS users, are poorly informed about the system, its benefits and how it works. Therefore, there should also be training and targeted information campaigns for parents. Only in Druzhkivka, where local civil society organizations were actively involved in the implementation phase, were parents informed and involved already from the pilot phase onward.

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36 - *'There is no communication at all. The principals and IT teachers are the only actors involved in OpenSchool communication. There should be a way to contact the initiator of OpenSchool. Moreover, a position for a regional coordinator should be created. The aim of the initiative is well understood, but there are still no benefits, only obligations. There was only one training about software usage that was not enough'* (FG, principals, Kramatorsk).

37 - E.g. Interview, NGO, New Druzhkivka.

Figure 10. Representation of the OS initiative on the open government maturity ladder
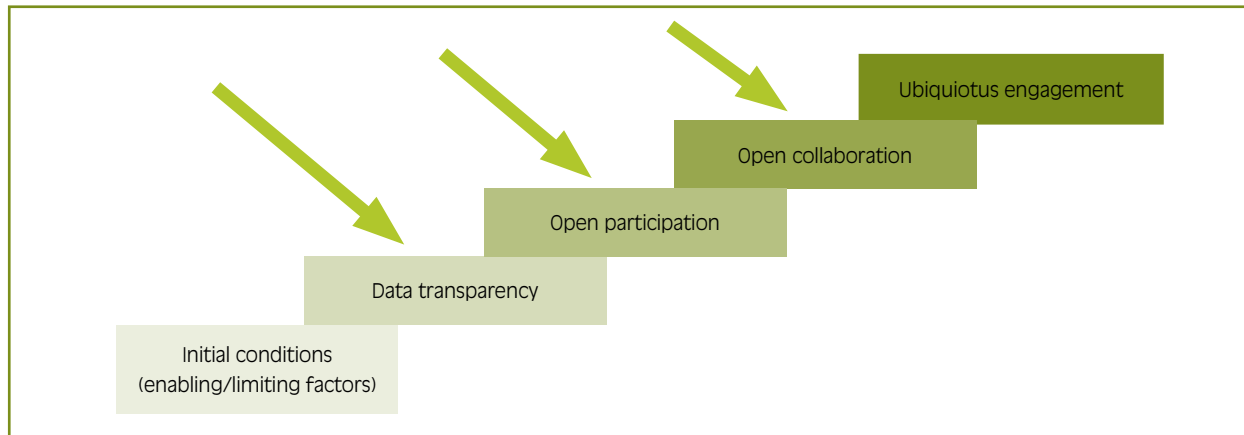
Data transparency

The main conflict between the supporters of OS (civil society organizations, DoEs) and those who are hesitant to implement the system (mostly school principals) arises from their different interpretations of transparency. The supporters encourage school principals to implement OS as a tool for complying with legal requirements as regards opening the school budget to the public in line with Art. 30 of the Law on Education. However, the Law does not provide any details on what form the published data should take. Thus, each school principal has their own individual way of reporting this information to parents. Most are publishing financial reports on their websites, but these vary in their presentation and accessibility. Some school principals usually report on their school's budget and expenditures at the all-school meetings for parents. As they are already using these reporting channels, they view OS as an additional workload that is meaningless and simply duplicates existing efforts. But even if school principals formally comply with the national Law, the international principles of open data such as 'open by default, timely and comprehensive, accessible and useable, and comparable and interoperable'[38] remain violated. In line with this interpretation of open data, the reports provided are useless and fragmented, disseminated sometimes as seldom as once a year at the all-school meeting, and show only how much money the school has obtained and spent but rarely with a detailed list of expenditures. In addition, individual reports don't allow comparison between schools, nor help identify school needs or facilitate budgetary planning.

OS, on the contrary, constitutes a typical example of open data as a transparency mechanism. OS provides a technical solution that allows the publication of data in compliance with all six open data characteristics provided in the International Open Data Charter (2015):

• Open by default: Each school that is registered on OS has a profile with pre-defined compulsory information to disclose. Thus, anyone can see, without requesting additional information, the amount of money that the school has received, sources of funding, spending and who the contractors are that provide services and goods.

• Timely and comprehensive: E-data (identified by the school's ID), including all transactions from the national and local budget, as well as online donations by parents or other donors, are automatically updated.

• Accessible and useable: OS provides multiple ways of e-data visualisation making it comprehensible to the general public, without needing advanced IT skills.

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38 The International Open Data Charter (2015) outlines six principles for how to publish data: open by default; timely and comprehensive; accessible and useable; comparable and interoperable; for improved governance and citizen engagement; and for inclusive development and innovation. Open data are a precondition for further dimensions of OG, such as open contracting, open budgeting, social audit, as well as open policy making

- Comparable and interoperable: Anyone can extract the OS data via API (in JSON format), while the algorithm for that is publicly accessible on the Open School Blog.[39] This format allows comparing, for example, regions, schools, financial flows for education, school needs, and contractors.

- For improved governance and citizen engagement: OS provides users the possibility to comment and rank the needs and expenditures of schools; it also creates a channel of communication between DoEs and school principals, who can submit electronic and transparent requests for funds to LPAs.

- For inclusive development and innovation: The overall goal envisioned by the founders of OS is improvement of the quality of education through increased effectiveness and efficiency in the use of public goods by means of financial transparency and the active engagement of different stakeholders.

Participation

Allowing greater parent participation is one of the major advantages that Open School transparency provides, even though there are already ways for off-line participation in place. The most widespread means of parental participation in school life is through regular meetings for parents (ukr. bat'kivski zbory) organized by a teacher in each class. These meetings focus on discussion of children's performance,[40] as well as organizational issues, including funding needs. Regarding the collection of funds, the schools, sometimes in collaboration with parents, provide a list of needs (teachers compile the list for a class and school principals for a school) and forward the request to the self-managed parents committees (parents actively engaged in a class or school), who then collect the funds in cash.[41] Reporting formats for these funds differ between classes and schools: while in some classes parents send around receipts for purchased goods through parents' messenger chats, in others, a simple oral statement of what was purchased is made (Homaniuk et al., 2020).

OS was introduced as a complementary online tool to facilitate the engagement of parents in the resource allocation and monitoring stages of educational planning:

> *The system makes it possible to collect feedback and suggestions. The school asks how much money is needed, then the school raises funds, posts receipts or documents for that amount* (interview, DoE, Druzhkivka).

Practically, OS allows each parent to oversee school needs, income and expenditures, and sources of funding. Based on the information obtained via OS, parents can use further instruments, such as requesting information and filing complaints, to bring an issue to the attention of authorities. The system also allows schools to receive feedback, along with donations that directly support their published needs.

Some respondents highlighted that they perceive increasing participation of parents in education as a potential outcome of OS.[42] Representatives of LPAs associate the positive assessment of OS implementation with the decreasing number of parents' complaints with regard to school funding. The DoE Head in Druzhkivka, however, urges parents to be more proactive with regard to the formulation of needs:

> *I would like parents to write requests through the system, because the more requests we have, the more we can do. Local council members can see them on the site, and understand the needs of the school* (interview, DoE, Druzhkivka).

School principals and teachers are much more sceptical about the engagement of parents:

Parents have little social activity; they constantly need to be asked to be involved somehow. Accustomed to old habits, it is difficult to introduce new ones. Parents hear what they want to hear. They are not interested in how much the school should spend to keep it at the level they want (FG, teachers, Druzhkivka).

In urban contexts, teachers pointed out that only 20% of parents they deal with have higher education. Most of them work in factories and don't have the know-how to become involved in school matters via IT tools. Teachers in semi-urban contexts also highlighted that many parents don't have IT literacy skills and distrust technologies.[43]

The representative of the NGO 'Ukraine of Opportunities' in Druzhkivka also recognised the risk of passive parents:

Now [after OS implementation] *I see that the presence of the tool does not mean its active use* (interview, NGO, Druzhkivka).

This same NGO has elaborated a constructive approach for tackling the problem of low parent engagement, which has worked well with parents in Druzhkivka in developing good practices and building support for collective action via OS. For example, they are planning a joint fundraising campaign:

After the fundraising campaign, they [parents] *began to understand that it works, it is possible to do fairs, print information, not to force but to be interested. Schools need to be more open, not only about reporting, but also accessibility: providing private services, renting halls or equipment, can help earn extra money* (interview, NGO, Druzhkivka).

The NGO also supports parents to advocate for and request running costs from the DoE in order to address the basic needs of schools and kindergartens. The activists monitor the needs that the educational institution posts on OS. Then they check that the school principal has requested funds from the DoE. If not, they urge the school principal to do so. If the request is declined, then the NGO itself addresses the request directly to the DoE. In this context, the representative from 'Ukraine of Opportunities' emphasises the benefits of collective action:

When independent NGOs act on behalf of schools, it works because we are not part of the vertical system. We were supported by parents who are also not afraid to express their opinions (interview, NGO 'Ukraine of Opportunities', Druzhkivka).

Through such positive examples, the NGO aims to encourage action among an increasing number of parents who disagree with permanent funding requests, or those who are simply not able to provide funds, but are experiencing social pressure.

Collaboration

Unlike participation, collaboration has a significant power-sharing aspect. An important added benefit of OS implementation is the system's ability to improve collaboration between schools and LPAs:

Schools collaborate with the DoE by sending requests. Sometimes such communication brings results. If there are running costs, schools ask for funding, as parents never care about operational needs (FG, school principals, Kramatorsk).

Communication between school principals and the DoE with regard to costs is not always visible to the general public, as it involves informal practices and informal hierarchies. The non-transparent distribution of public funds

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43- This observation is in line with official statistics: around 27% of Ukrainians who are 22 years old or older have completed higher education (2016). This number is higher for urban settlements: ca. 35% (vs 13% in rural). Source: *http://www.futureskills.org.ua/ua/map* based on the data from the State Statistics Service of Ukraine.

undermines trust in DoEs not only for parents but also for teachers and sometimes school principals, who are concerned about unequal distribution of funds among schools. At the same time, DoEs mistrust school principals whom they suspect are double fundraising from DoEs and parents for the same purpose. In contrast, OS encourages collaboration between these groups as reported by teachers and OS administrators in Druzhkivka:

The number of conflicts has not increased, the DoE has become more cautious, they have started to listen to us. They understand that they have to be friends with society. They no longer say that there is no money, but say that they think they know where to find it (FG, teachers and administrators, semi-urban).

Open School practices have also led to a more positive perception of LPAs concerning better budget planning. The Deputy Mayor of Kramatorsk said:

In 2019, in our annual budget plan, we were relying on the funding requests by school principals. In the budget planning for 2020, we are analysing OS in order to estimate the running costs in school budgets. It is easy to estimate the costs for permanent maintenance, but running costs are causing many questions in society (interview, Deputy Mayor, Kramatorsk).

Table 7. Operationalising open government through OS

OG component	OS function	Indicators
Transparency	OS provides a technical open data solution in compliance with national legislation and the International Open Data Charter.	Financial data of schools is open by default, timely and comprehensive, accessible and useable, and comparable and interoperable.
Participation	Monitoring: OS allows each parent to oversee the needs, income and expenditures, and sources of funding in a school. • Communication: The system allows to provide feedback to the school. Based on the information obtained via OS, parents can use further instruments, such as requesting information rand filing complaints to bring an issue to the attention of authorities. • Action: OS also makes it possible to donate funds to schools that directly support specific published needs.	Registered and active users of the OS platform. • Ranking of needs and expenditures of a school; comments. • Online donations for specific needs, reporting.
Collaboration	OS provides a communication platform between school principals and DoE: school principals can list the needs of a school, estimate costs for covering these needs, post requests for funding.	Funding requests from school principals to DoE. • DoE response to the funding requests of school principals. • Ex-ante planning of school budget by local and national authorities.

Source: Authors' compilation

4 ● Accountability models used in OS

4.1 Accountability domains targeted by OS

Open School targets primarily the financial accountability of schools to LPAs and parents. Management accountability is the second important domain. An NGO representative explains:

Most users perceive OS exclusively as an accountability tool for voluntary contributions from parents. However, first and foremost, it is an accountability tool for the public funds that the schools receive from LPAs. It allows a simple visualization of how much money was spent for which items. Another aspect is the management accountability of school principals, highlighting for which purposes they are requesting funds. And, finally, this is an accountability tool for parent donations (interview, NGO representative 'Ukraine of Opportunities').

A member of Sloviansk City Council and the regional representative of Kyiv Dialogue pointed out:

> *At present, there is no alternative to the Open School system. I believe this is the only electronic service that provides the possibility to make the use of public finance for schools transparent. All funds, including both budget funds and voluntary contributions* (interview, member of City Council, Sloviansk).

There are noticeable differences between the perceptions of parents and of school personnel regarding targets of accountability. While the overwhelming majority of parents agree that under OS school authorities are being held accountable for their actions and performance, and DoE for malpractice and corruption (87% and 85%, respectively), those percentages are much lower for school personnel (14% and 11%, respectively). Instead, there are considerable proportions of school personnel who said that they did not know how to answer these questions (*Figure 10*). There were no significant differences according to contexts (urban and semi-urban).

Graph 4. Targets of accountability by OS as perceived by school personnel and parents
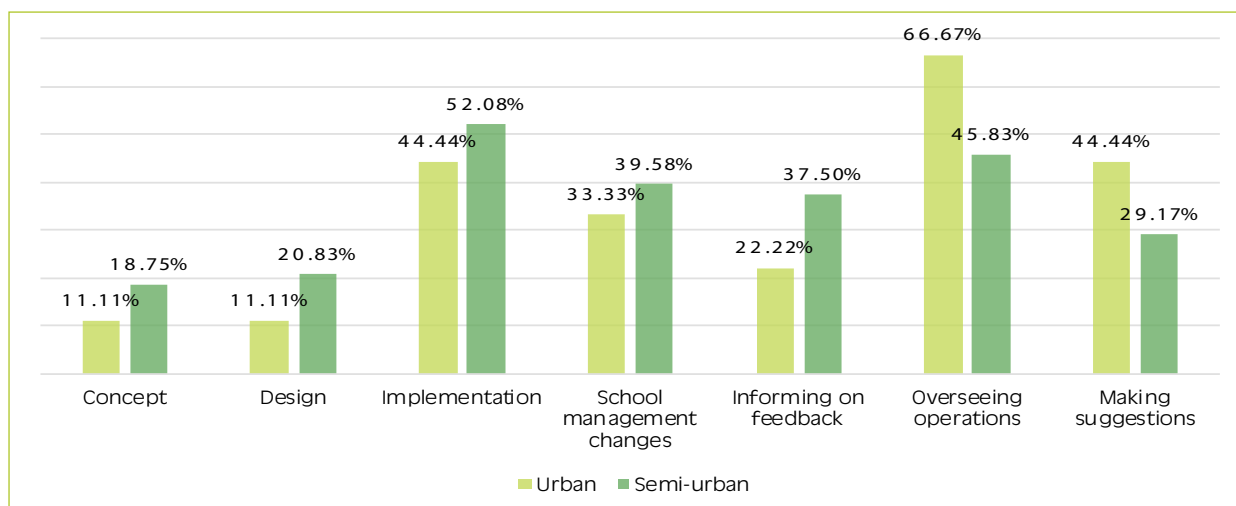
Note: n parents = 85, n school personnel = 57. Percentages were calculated from the relevant sample (parents/school personnel), contexts lumped together. Options 'strongly disagree' and 'disagree', as well as 'strongly agree' and 'agree', were combined for easier visualisation of the graph.

Source: Authors' compilation based on original survey data

The RACI (responsible, accountable, consulted, informed) matrix in *Table 8* summarises the areas of responsibility of different stakeholders with regard to the financial accountability of schools.

Table 8. RACI matrix for financial accountability with regard to school budgets

Steps in OS participatory planning	City Council	Local Department of Education	CSOs and media	School principals	Teachers	Parents / school parents committee
Resource allocation	A: DoE is accountable to the local elected authorities.	R: DoE allocates budget for the running costs at each school.	I: Media and activists are informed through open budget. A: Horizontal accountability for resource allocation	C: Financial requests by school principals serve as the basis for the future allocation of public funds. I: Can compare whether public finance is proportionally allocated to all schools.	C: Teachers consult parents in each class about the needs of that particular class.	R: The parents committee requests funds from parents. I: Parents are informed which needs are covered by the public budget and which needs remain open.
Implementation	A	A	I and A	R	C	R and A
Monitoring	A	R	R and I	C	I	R
Reporting and evaluation	A	R: Reports to national authorities and local elected authorities. A: Holds school principals accountable for reporting.	R: Report to LPAs and parents.	I	A	R

4.2 Consequences and established conflict lines

Accountability can be divided into two parts: answerability and enforcement/sanctioning. With regard to answerability, school principals are obliged to provide information and an explanation to the public about their school needs and financial expenditures which they have communicated to the DoE and to the parents. By means of OS, this information is provided in an accessible, comprehensible and comparable way. Although improving answerability, OS does not resolve the issue of lack of enforcement and sanctioning when data are not disclosed. As OS is voluntary, the DoE has no leverage to enforce this. The only effective way for enforcement is societal accountability – i.e. when CSOs and actively engaged parents exercise pressure on LPAs and school principals. Two mechanisms are particularly useful: requests for information, or complaint mechanisms, which are well regulated through national legislation[44] and extensively used by CSOs and the media.

When published under OS, the data can be used to control and sanction fund embezzlement, the most widespread form of corruption and mostly associated with public procurement. In Ukraine, the law foresees criminal

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44 The Constitution of Ukraine protects the right of citizens to access information (§§ 2, 3 of Art. 34). Laws No. 2939 'On Access to Public Information', No. 2657 'On Information', and No. 183-VIII 'On Open Use of Public Funds' regulate access to information. Law No. 393 'On Citizens' Appeals' defines (§ 4 of Art. 3) and regulates (Art. 16-19) the application of complaint mechanisms.

responsibility for embezzlement (*Box 5*). But despite strict regulations, very few cases reach the courts and are prosecuted, as the legal system remains highly politicised and its reform is still ongoing.

> **Box 5. Liability for embezzlement**
>
> Embezzlement falls under the category of economic crimes or crimes against property in the Criminal Code. According to Article 191, paragraph 2, the penalty for embezzlement in public office can reach five years of imprisonment or three years of deprivation of the right to occupy certain public offices or engage in certain activities. Depending on the amount embezzled, the penalty may be increased to twelve years of imprisonment, and three years of deprivation of the right to occupy certain offices or engage in certain activities, as well as confiscation of property (Hughes and Huss, 2017, p. 16).

Conflicting lines of accountability

Multiple stakeholders (i.e. deputy mayor, DoEs, school principals), especially in urban contexts, emphasised that the implementation of OS has become a way to reduce conflicts between parents and education institutions. In the City of Kramatorsk, for instance, several schools received funding from business, and some were selected to receive support from UNICEF. Unrest among parents was growing, as there was no information about differences between schools and sources of their funding. Transparency of funding via OS was seen as useful for shedding light on the differences and diverse sources of funding between schools. As a result, the number of complaints from parents decreased, as reported by LPAs.

Another line of conflict between parents and school principals results from managerial accountability. Some parents, when asked to collect funds for some basic school needs will verify whether the school has already requested these funds from the DoE and if not, they can urge the school principal to request the necessary funds from the DoE first:

> *If the principal has made a hundred requests, but the need for the school has not been met, parents will help with financing. But we [parents] must see that such requests have been made. One of the parents created the 'Parents of Druzhkivka' Facebook group to inform parents* (FG, parents, Druzhkivka).

If the principal is neither open to dialogue nor responsive, an official request by the school committee has proved a useful tool for parents to exercise formal pressure, as the Deputy Mayor of Kramatorsk reported. Sometimes, such action reveals double funding. The Head of DoE in Kramatorsk reports that in one school, parents had to collect money for such basic needs as toilet paper. They filed a complaint to the DoE and OS helped to prove that the toilet paper had already been paid for from the local budget. In addition, OS tends to improve relations between parents and teachers. Because teachers are no longer involved in any kind of fundraising, their credibility is enhanced. Yet, the introduction of OS, as some interviews revealed, has sharpened conflicts among some parents. There are those in favour of collecting money without exploring alternative sources of funding, such as the local budget, or with no proper cost estimation. When small sums are involved, some parents just give the money, as it is easier to pay than to spend additional time for double-checking alternatives. As a result, a conflict line appears between parents who collect money, and those who resist and insist on formal and institutionalised ways of covering the running costs for the school or kindergarten (interview, NGO 'Country of Opportunity', Druzhkivka).

In Kramatorsk and Kostiantynivka, there is an additional conflict line based on the mistrust of the population towards authorities who are perceived as being less accessible than in Druzhkivka. This mistrust has negative consequences for the implementation and use of OS there unless supported by a close partnership with local NGOs. In Kramatorsk, teachers report:

If there is no trust in the government, there is no trust in OS, because it is perceived as part of the government. This project is large-scale, so people do not expect any changes. If the parents could see the result at least once, they would believe in it (FG, teachers, Kramatorsk).

A similar attitude is present in Kostiantynivka:

There is no trust in the authorities. Our government has been the same for ten years. The feeling that we can change something was when OS started, but hope dies every day (FG, teachers, Kostiantynivka).

Perceived conflicts between OS stakeholder groups

Most of the parent respondents reported no conflict between stakeholder groups (53% of those who are aware of Open School), and only 3% of respondents reported moderate or considerable conflict. Some conflict was reported in large semi-urban schools between the school administration, and other stakeholders in the OS process (9% each, of all respondents in that sub-group); and in semi-urban medium-sized schools between teachers and other stakeholders (also 9%, of all respondents in that sub-group).

Table 9. Reporting by parents on conflicts between stakeholder groups and other participants in Open School

Some conflict (moderate + considerable)	Urban		Semi-urban		Average for category of stakeholders
	Medium school	Small school	Large school	Medium school	
DoE	No reports on conflict		3%	5%	2%
School principals			9%	5%	3%
SMC*			9%	5%	3%
Teachers			6%	9%	4%
Parents			3%	5%	2%
Students			0%	5%	1%
Community			3%	0%	1%
Average for school size/context	n/a	n/a	5%	5%	

* Institutions that correspond to a school management committee (ukr. pikluval'nia rada) are very new and rare in Ukraine (the practice has been implemented in very few schools since 2018), therefore in the translation of the questionnaire, we refer to the school administration as consisting of a school principal and deputies.

Note: n urban = 9; n large semi-urban = 34; n medium semi-urban = 14. Percentages were calculated from the relevant sample (urban/semi-urban and large/medium/small).

Source: Authors' compilation based on original survey data

Most school personnel also reported either no conflict between any of the OS stakeholder groups (41% of all respondents in this group), or that they did not know (36%). When compared to parents, a rather large proportion (18%) reported moderate or considerable conflict among stakeholder groups. On average, 30% of school personnel noted that parents were in conflict with the rest of stakeholders. School personnel respondents also noted (just as parents) that school principals and DoE were the second- (17% on average) and third-ranked (16% on average) stakeholders having conflict with the rest of OS stakeholders. Personnel from medium semi-urban schools reported the highest rates of conflict between stakeholders (22%), followed by large semi-urban schools (18%) and urban schools (11%).[45] Among semi-urban large schools, 21% of respondents indicated community as a stakeholder group in conflict with the rest of OS stakeholders (i.e. second highest result after parents in this sub-group).

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45 We have only included medium-sized schools in the urban sample for school personnel.

Table 10. Reporting by school personnel on conflicts between stakeholder groups and other participants in Open School

Some conflict (moderate + considerable)	Urban Medium school	Semi-urban Large school	Semi-urban Medium school	Average for category of stakeholders
DoE	11%	9%	29%	16%
School principals	11%	18%	21%	17%
SMC*	0%	15%	21%	12%
Teachers	11%	15%	14%	13%
Parents	33%	29%	29%	30%
Students	0%	18%	29%	15%
Community	11%	21%	14%	15%
Average for school size/context	11%	18%	22%	

Note: n urban = 9; n large semi-urban = 34; n medium semi-urban = 14. Percentages were calculated from the relevant sample (urban/semi-urban and large/medium/small).

Source: Authors' compilation based on original survey data

4.3 Evidence of better accountability

In Druzhkivka, as the local policy aims to completely abolish donations from parents, OS has been implemented as a useful tool for estimating the amount of parents' donations that would eventually become superfluous once adequate funding can be provided by the city budget. The Head of the DoE in Druzhkivka explains:

> *The first goal has been achieved; parental funds are no longer collected in cash. The task now is to have all the resources and needs of each school posted on the OS site. The aim is to receive more funds from the City budget, but also to encourage funding contributions from donors* (interview, Head of DoE, Druzhkivka).

An activist in Druzhkivka, who volunteers her help to support the OS administrator at her child's school, describes a case where the school made a request for and received public funds for renovation, while other schools were collecting money from parents:

> *Most school principals of the large schools did the following: they received funds from the public budget but didn't admit that it* [the renovation] *was done with support from the City. Some parents from these schools started raising questions: 'Why did the school X and Y receive funds, but we didn't?' However, although the school principals did receive such funds, they didn't want to miss out on additional funding from parents, as the* [public] *funds are always insufficient* (interview, activist, Druzhkivka)

A similar example has been reported by the Chair of the NGO 'Kramatorsk Parents' Union': when her child was in kindergarten, she was informed that parents were collecting 100 UAH monthly. Using OS, she saw that there had not been a single request for any funds from the local budget for the kindergarten. Through their NGO, these actively engaged/activist parents informed and supported other parents in similar attempts to participate in the identification of needs in their respective schools and collectively post requests for funds to the DoE.

Table 11. Accountability matrix

Better defined responsibilities	Allocation and use of resources modified	Anti-corruption policies adopted	Communities empowered	Other forms of accountability
Major responsibility for funding is assigned to the DoE; in Druzhkivka, funding from parents is prohibited.	Additional funding is allocated to compensate for proscribed donations from parents; OS provides the possibility for schools to receive business and alumni donations; LPAs use OS data to allocate resources more efficiently.	OS allows usersto track double-funding, from the public budget and from parents' donations.	Budget transparency increases societal accountability and public auditing, however this requires an extensive information campaign (e.g. Druzhkivka).	Horizontal accountability, especially between school principals and the DoE, and the DoE and the City Council.

4.4 Feedback on the use of OS

As the OS platform is relatively new – it has been functioning for about one year in the cities under study – there are significant gaps in feedback loops concerning OS use. The examples of an active communication campaign cited by activists in Druzhkivka and Kramatorsk are rather exceptional. OS stakeholders at other schools are often frustrated because they don't see evidence that the system is being used:

There was some doubt that OS would work: we set out what our school needed, tried to work with it, but we knew that parents would not visit OS. Our fears were confirmed because parents at our school were not interested. … Since parents raise money in cash, putting information on OS is an extra job (FG, teachers, Kostiantynivka).

An OS administrator in Kramatorsk reports the same concern: he photographed and then posted on OS all the receipts for small sums of money alongside the goods bought, but no one even checked if he had done everything correctly (FG, OS administrator, Kramatorsk).

The activist in Druzhkivka encourages parents to provide feedback, but she sees the problem as stemming from top-down implementation:

I encourage parents to use the system for feedback. For them [parents], it is more an advertisement of our NGO than a benefit to them. On the other hand, these are the negative consequences of the centralised implementation of the system (interview, NGO 'Ukraine of Opportunities', Druzhkivka).

In fact, very few survey respondents (see *Graph 5*) have given feedback about OS: 84% of parents and 81% of school personnel have never given feedback on OS. At the same time, neither parents nor school personnel mentioned that difficulty in giving feedback was the reason for not achieving OS goals. Interestingly, parents seem to be generally less aware than school personnel about ways to give feedback on OS, while both groups share the view that feedback on OS can predominantly be given directly to the school administration and teachers.

Graph 5. Comparison of the most commonly cited ways to give feedback on OS among parents and school personnel
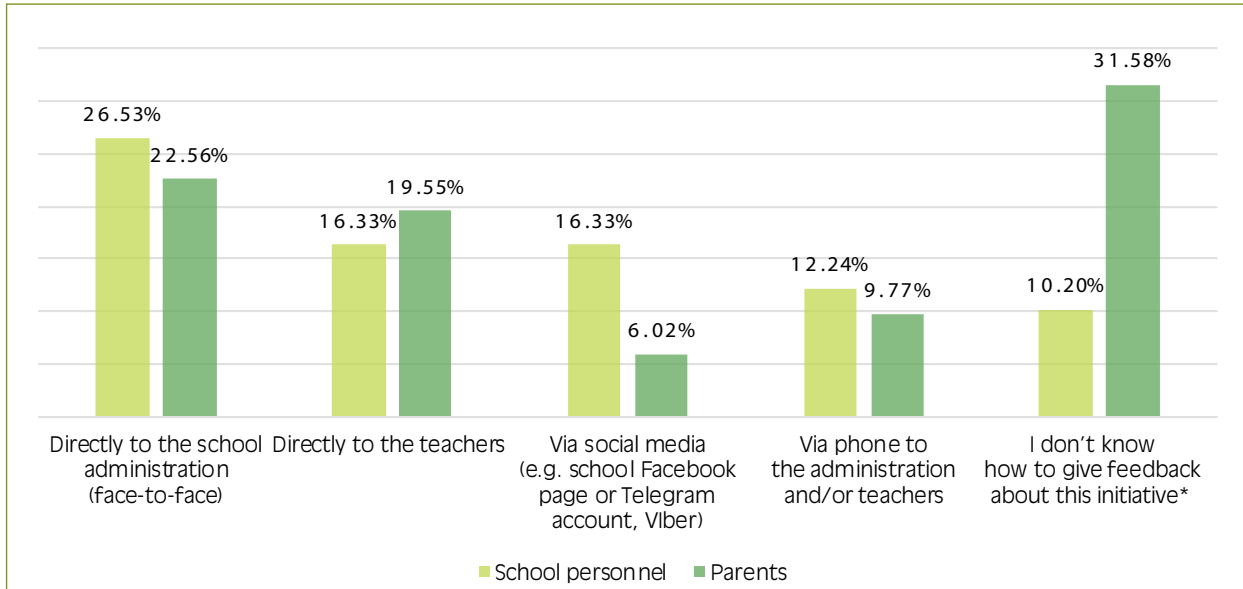
Note: Multiple options were possible for an answer, therefore n parents (answers) = 133; n school personnel (answers) = 98. The graph shows only answers that were cited at the rate of 10% or more for at least one of the stakeholder groups. Percentages were calculated from the relevant sample (parents/school personnel), contexts lumped together. *- indicates that these percentages reflect the actual number of respondents in the relevant group who were not aware of how to give feedback on OS (they could only select one answer) (here, n parents = 85, n school personnel = 57).

Source: Authors' compilation based on original survey data

The survey also reveals a significant difference in the awareness of strategies used to ensure that people's feedback is taken into account: while almost 60% of parents are unaware of such an option, among school personnel they are only 10%. Among respondents aware of such strategies, the two most cited are: internal school surveys to evaluate the effectiveness of OS and checking with parents. In semi-urban contexts, parents also cited regular supervision and checking by DoE. And school personnel in urban contexts referred to punitive measures relatively frequently (13%).

Graph 6. Stakeholder awareness of OS feedback strategies (comparison between school personnel and parents)
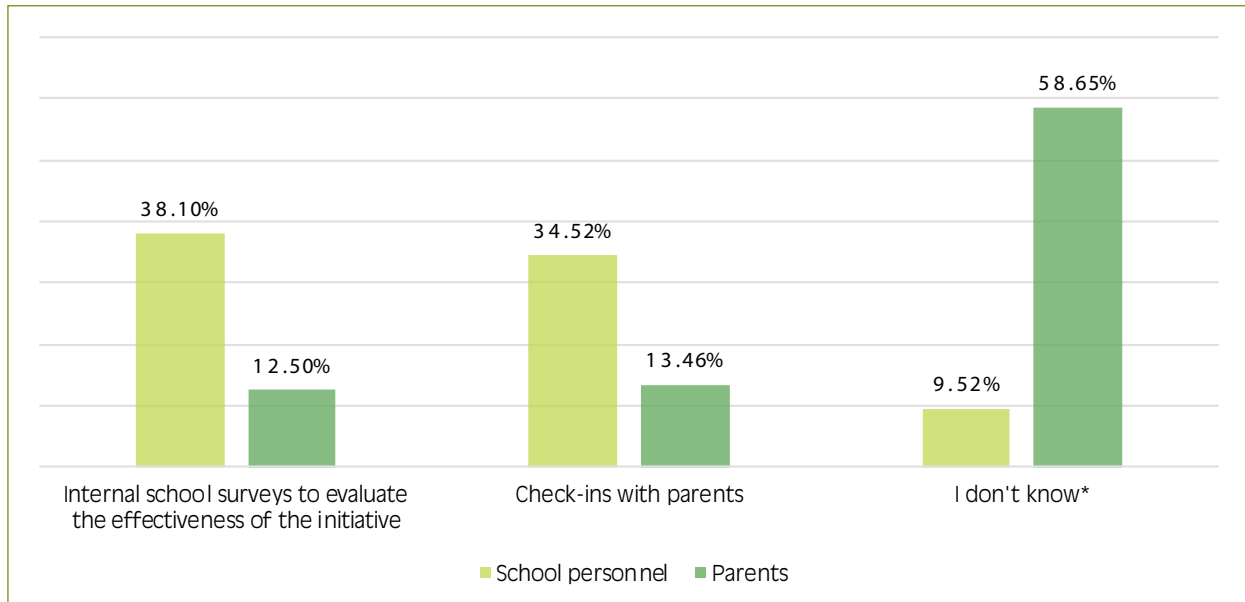
Note: Multiple options were possible to answer, therefore n parents (answers) = 104; n school personnel (answers) = 84. The graph shows only answers that were cited at the rate of 10% or more for at least one of the stakeholder groups. Percentages were calculated from the relevant sample (parents/school personnel), contexts lumped together. * indicates that these percentages reflect the actual number of respondents in the relevant group who were not aware of the accountability system (they could only select one answer) (here, n parents = 85, n school personnel = 57).

Source: Authors' compilation based on original survey data

5 ● Analysis of the short, medium- and long-term impact of OS

5.1 Public value of OS

Both parents and school personnel agree that the greatest value of Open School lies in its ability to increase the operational efficiency of the school. As shown in *Table 12*, about half of the respondents in each group identified improved allocation and use of financial and material resources as the top-ranked value of OS. Similarly, reduced corruption is the third most valued benefit among both stakeholder groups – with about a third of the respondents in both groups having selected this benefit. There is also general agreement between both groups that OS contributes to a better learning environment for children and to an increase in parents' influence.

Table 12. Value of Open School by parents and school personnel

	Parents	School personnel
Better use of resources (financial and/or material)	51%	39%
Better allocation of resources	38%	48%
Less corruption in school	28%	32%
More accountability, more incentives for teachers to perform well	24%	14%
Better learning environment for students	22%	30%
Greater influence of parents	21%	25%
More fairness and equity in school	9%	11%
More inclusion of marginalised groups (e.g. women, minorities, people with disabilities)	4%	13%

Note: n parents = 85; n school personnel = 56. Percentages were calculated from the relevant sample (parent/school personnel).

Source: Authors' compilation based on original survey data

Trust and dialogue

Based on the interviews and focus groups, we identified several issues that OS implementors aim to resolve through OS. The major issue that OS aims to tackle is the low trust between key stakeholders in education, due to the non-transparent use of funds and a widespread perception of corruption. In the focus group, school principals expressed their frustration because of the low trust towards school personnel:[46]

> *Everyone sees school principals as criminals, corrupt officials. Bribes* [allegedly] *exist only at school, only the principal and the teacher are responsible. That is why we are talking about* [the need for] *this openness* (FG, school principals, Druzhkivka).

Teachers also pointed out that they feel decreasing trust towards them, as there is a lot of information on the Internet about bribery at schools (FG, teachers, Kramatorsk). In sub-urban contexts, the feeling is similar:

46-Similar position is expressed in the interview with the school principal in Kramatorsk.

Teachers are the subject of offensive jokes in the informational space, about raising money for curtains. They are constantly insulted, although teachers do not raise money themselves (FG, teachers, Kostiantynivka).

As a result, teachers are trying to distance themselves from raising funds from parents.

Local public authorities and DoEs have become aware of the mistrust that parents have of teachers and school principals through the complaints that are reaching them.[47] In parents' complaints and questions on- and off-line, civil society activists both at national and local level also observe great parental mistrust of teachers.[48]

Most stakeholders confirm that the transparency that OS creates is very useful for building trust among their groups. LPA representatives have observed:

OS increases trust in each other: authorities, parents, schools (interview, Deputy Mayor, Druzhkivka).

This system creates trust between teachers and parents, and when it does, they work together to raise the child. If there is understanding and trust – a completely different educational process occurs (interview, Head of DoE, Druzhkivka).

Teachers further recognise that OS data that also include information about their salaries increases parental trust in teachers:

As for the school, the result is greater/growing respect for teachers. People will stop gossiping about the corruption of teachers who spend their children's money on themselves (FG, teachers, Kramatorsk).

Further, transparency regarding fund operations increases trust not only on the side of parents, but also between school personnel and LPAs. As an OS administrator and teacher in semi-urban contexts reports:

This initiative has changed my attitude towards the authorities, my confidence in them is greater now because I can see everything that is happening with money. When the principal makes a report, I see that this is indeed true (FG, teachers and administration, Druzhkivka).

Finally, OS builds trust among parents. When there is truly voluntary and transparent funding, there is no need for bullying, or using other means of social pressure, to coerce reluctant parents into contributing money.[49]

Better allocation and use of resources

Another issue that OS aims to address is the need for better planning of educational expenditures. Very few schools have financial autonomy, they receive and spend funds through the LPA account. The procedure to request money from the DoE and then to spend it following the rules for transparent public procurement is extremely time consuming. Thus, it is faster and less bureaucratic to collect cash directly from parents and let them take care of school repairs (interview, Head of Kramatorsk Parents' Union).

In cases where schools are prohibited to collect money from external sources, some parents have set up charitable foundations for their schools. However, as there is no obligation for financial reporting, mistrust of foundations is likewise high. The Head of DoE in Druzhkivka explains:

Charitable foundations are created on the initiative of parents for supporting the school, but they may not be transparent. Although there was an information wall in each school (prior to websites), the parent committees reported expenditures at the parental meetings and this information then remained posted on the information wall for a year, but not all parents attended the meetings or saw the reports posted in schools (interview, Head of DoE, Druzhkivka).

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47 - E.g. interviews with the deputy mayors of Druzhkivka and Kramatorsk, as well as the heads of DoE in all three cities.
48 - Interviews, Parents SOS, Kyiv and the Kramatorsk Parents' Union.
49 - Interview, Head of DoE, Kramatorsk.

Yet, in cases where OS was introduced and these schools have posted their running and capital costs, the data could be used for a more realistic planning of expenditures by both LPAs and the MES (interviews, Deputy Mayor, Druzhkivka; MES, Kyiv). For instance, it thus becomes possible to calculate in advance an annual budget for the running costs of small repairs.

In addition, OS helps to reduce social pressure on parents and provides a space for voluntary donations. Parents can prioritise school needs themselves. As a result, some teachers (e.g. FG, teachers, Kostiantynivka) have expressed concern that OS might actually reduce donations by parents, as they either don't have the technical know-how to make electronic payments, or will not donate without group pressure to do so. At the same time, schools are heavily reliant on the financial support of parents, as funding from LPAs, especially in the region affected by war, is not sufficient.

Reducing corruption

Voluntary contributions from parents for the maintenance of schools and classes carry a high risk of corruption. First, corruption can occur through double funding that school principals might receive, as they have discretion over the use of funds. In a society with widespread corruption, it is assumed by default that if there is an opportunity – access to monetary resources, discretion and no control – anyone will use it for private enrichment. Thus, even if not always misusing public funds for private gain, the likelihood of corruption among school personnel and local public authorities managing public funds for education, is perceived to be extremely high.[50] In addition to a lack of transparency, there is a serious lack of accountability and reporting about parents' donations, as they are collected mostly in cash. As a rule, even if there are reports about donations from the parents' committee, these are rarely comprehensive, which means that receipts and a detailed list of income and expenditures are missing.

The Head of DoE in Kostiantynivka explains the effect of OS in this respect:

> *The OS system can show, for instance, that the school collects money for soap, as there are no funds for that from the local budget, which is also visible on the OS site. Without OS, when parents contribute 20 UAH for classroom needs and 20 UAH for school needs, they mostly know the purpose of the first contribution, but it's not clear to them what the second contribution is for, since the reporting is mainly about total school expenditure. And it's also not clear how this relates to the school's income. With the OS system, however, it's possible to clearly see what the money was collected for, how much, and whether it has been spent properly* (interview, Head of DoE, Kostiantynivka).

50-E.g. interview, member of Sloviansk City Council.

Social equality and equity

Fostering greater social equality is an important indirect impact from OS. Currently, poor families experience collective social pressure when money is collected for the needs of classes. Only very few actively engaged parents dare to question this practice. OS is not an ultimate remedy to abolish fundraising by parents, but the practice of anonymous donations via the OS system could relieve economically weak families from social pressure to make contributions.

Another aspect is inequality as regards the funding of different schools. One of the OS administrators reports about the positive impact of OS on reducing inequalities:

As a mother, I have seen injustice in the financing of different schools in the City. OS provides a good tool for looking at the distribution of costs across the schools and for running an advocacy campaign accordingly. A great achievement of this year was that all schools received [proportionally] *the same amount of money for repairs. This was related to OS implementation, to show that everyone received something. Now there is also additional funding from LPAs, and I think this is also related to OS* (FG, OS administrators, Druzhkivka).

Table 13. OS's impact on funding, management, equality and equity, and communication

Impact on funding	Impact on management	Impact on equality and equity	Impact on communication
LPAs provide additional funds for school needs.	Improved planning of education expenditures by local authorities.	Income, expenditures and requests by schools become comparable.	Increased trust of parents in school personnel.
Reduced risk of corruption (e.g. through double-funding).	Better management of funds at school level.		Non-personal way to request funds for a school from LPAs.

5.2 Perceptions of output, outcome, and potential impact of OS

Achievement of OS goals according to parents and among teaching staff is comparable. Most surveyed parents believe that OS has reached some of its goals but not all of them (51%), so do most school personnel (55%). Around 16% of parents and 14% of school personnel thought that OS achieved all its goals, while a further 12% and 13%, respectively, thought that it did not achieve any of them. The proportion of parents who did not know how to answer this question was slightly higher than that of teachers and other school personnel: 21% and 18%, respectively (*Graph 7*).

Graph 7. Achievement of OS goals according to school personnel and parents
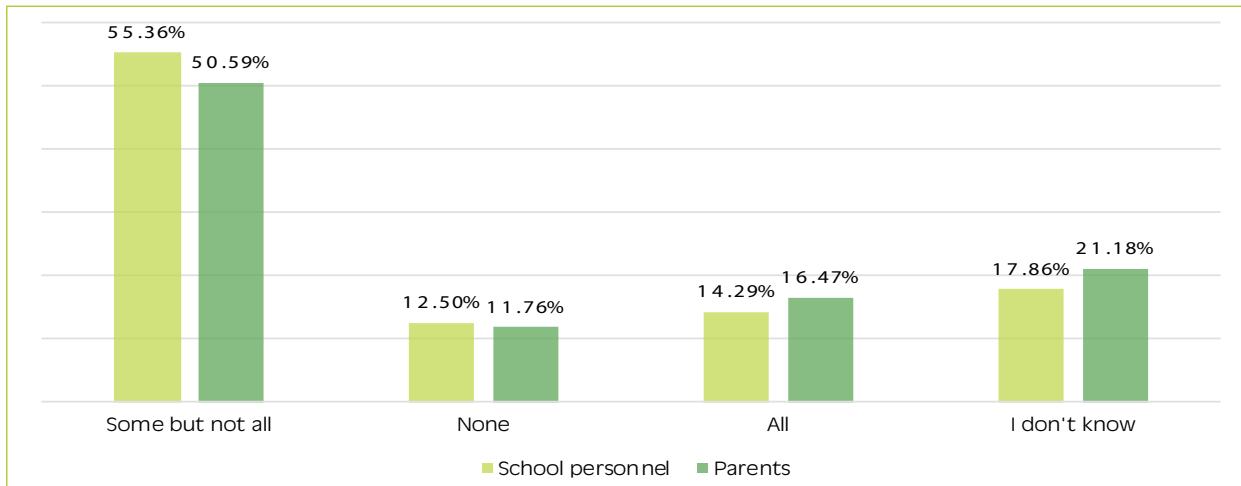
Note: n Parents = 85; n School personnel = 56. Percentages were calculated from the relevant sample (parents/school personnel).

Source: Authors' compilation based on original survey data

Unlike in urban settings, a striking number of parents and school personnel in semi-urban settings answered that OS achieved some of its goals but not all of them: 63% and 60%, respectively (see *Graph 8*). By comparison, these figures were only 28% and 33% (respectively) for parents and school personnel in urban settings. In a semi-urban context, the proportion of parents who did not know was almost half compared to those in an urban context (16% vs 31%, respectively). This observation is in line with the patterns of general parental awareness of OS (see *Table 4*), where parents from semi-urban settings were more aware of the existence of OS. Thus, these survey responses support the suggestion that parents in semi-urban settings not only know more about OS but also feel more comfortable in assessing achievement of its goals (hence, the small proportion of 'don't know' responses). Among teachers and other school personnel, predictably, there were no significant differences between contexts.

Graph 8. Achievement of OS goals according to parents and school personnel by context
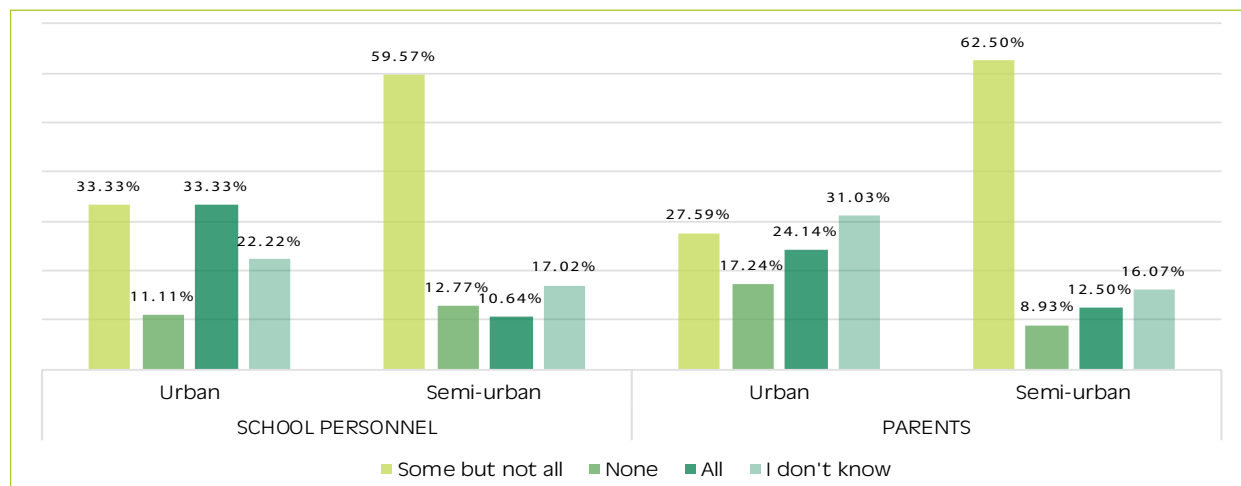
Note: n Urban parents = 29; n Semi-urban parents = 56; n Urban school personnel = 9, n Semi-urban school personnel = 47. Percentages were calculated from the relevant sample (urban /semi-urban parents; urban /semi-urban school personnel).

Source: authors' compilation based on original survey data

Negative consequences of OS implementation

School principals are the most reluctant to acknowledge the positive results of OS implementation. In the focus groups in Kramatorsk and Kostiantynivka, most of them complained about OS demanding an additional work-load without any reward. They claimed that although there might be some positive outcome in the long term, they see mostly negative consequences in the short term. They feel that reporting via OS is unnecessary and a duplication of labour, as they are already reporting on their websites. However, this way of reporting has been heavily criticised by NGOs and LPAs as being insufficient and fragmented. School principals and teachers are also resistant to OS because they worry that greater transparency will only lead to more negative criticisms:

What is the purpose of this transparency – so people will drag us through the dirt? (FG, school principals, Druzhkivka).

Another principal during the FG in Kramatorsk said:

Nowadays Open School is just one more way to criticise schools (FG, school principals, Kramatorsk).

Most of the parents (78%) answered in the survey (see *Table 14*) that there were no negative consequences from the introduction of OS, while another 17% did not know what to answer (they had mostly never thought about it before). Four parents or 5% of the respondents reported the following negative consequences: increased visibility of inequality between students in a school and between schools, greater tensions between teachers and parents, and waning donations from parents (while schools need this money).

Like the parents, most of teaching staff also answered 'no', when asked about negative consequences of OS (73%). Nevertheless, school personnel were more vocal than parents about the negative consequences of OS (27% of affirmative answers). Most cited the increased visibility of inequality between schools, followed by greater tensions between teachers and parents: 47% and 18% of school personnel who answered 'yes', respectively. Teachers and school principals also noted increased tensions between DoEs and the school administration, as well as more unpaid work leading to work overload. Some of their answers further indicated concern about parental dissatisfaction with the absence of tangible results from their engagement with OS, but parents themselves did not express such a concern.

Table 14. Negative consequences of OS

Negative consequences of OS identified by 'yes' respondents	School personnel	Parents
Inequality between students in schools and between schools became more visible	47%	25%
More tensions between teachers and parents	18%	25%
More tensions between education authorities or school administration and parents	12%	-
Parent dissatisfaction with the lack of positive impact from their engagement in OS	12%	-
Unnecessary unpaid extra work and subsequent work overload	12%	25%
Less funding forthcoming from parents even though this funding is necessary	-	25%

Note: percentages are given for the 'yes' sample in each group. N school personnel = 17, n parents = 4.

Source: Authors' compilation based on original survey data

From this data, it is possible to conclude that teachers and parents notice similar issues with regard to the negative consequences of OS (albeit to a different extent): the introduction of the platform has the potential to

create tension, especially between teachers and parents, and exposes inequalities (in LPA funding) between schools. The introduction of OS, with the additional unpaid obligation it imposes on some teachers, also causes dissatisfaction (parents see this, too).

Table 15. Open School result chain

Result	Indicators/ examples	Stakeholders mentioning the result
Short-term outcomes		
Increased transparency of school funding	Information on sources of funding and where the money goes became more widely available.	All
Additional funds for schools	In Kostiantynivka, there is a need to install fire alarm systems at schools but the local budget has insufficient funding to do so. This need will therefore be published via OS so that parents and businesses can donate money for this purpose and monitor whether it's spent in line with the request (interview, Head of DoE, Kostiantynivka). When schools communicate their needs transparently, LPAs are more likely to help to pay for the additional costs (e.g. 100 000 UAH for school renovation in Druzhkivka) thus making fundraising by parents unnecessary (interview, NGO, Druzhkivka).	DoE, NGOs, activist parents
Increased workload with no reward	Most OS administrators at schools and school principals complain about the additional workload (up to 4 hours per month) without remuneration.	OS administrators, school principals
Medium-term outcomes		
Reduced corruption risks (e.g. double-funding)	Upon the complaint from parents about schools requesting funds for running costs in Kramators, the DoE was able to prove via OS that they had already provided the funding for these particular school needs (interview, Head of DoE, Kramatorsk).	NGOs, parents, DoE
Increased equality and equity	OS revealed that schools in Kostiantynivka were receiving fewer funds form LPAs than schools in Druzhkivka and Kramatorsk. The school principal sent a complaint to the authorities (FG, teachers, Kostiantynivka).	School principals, teachers
Better communication between parents and schools and between schools and LPAs	School principals and teachers receive less criticism for collecting money, and LPAs receive fewer complaints from parents.	School principals, teachers, deputy mayors, DoE
More efficient and effective distribution of resources	Potentially, LPAs will be able to plan their education budget based on OS requests for covering school needs.	Deputy mayors, DoE
Improved horizontal auditing	DoE can monitor whether school expenditures are appropriate or not.	LPAs
Societal accountability of schools and LPAs	NGOs/parents can monitor a principal to doublecheck if a needed funding was	Activist parents, NGOs

Impact (expected)

Increasing trust	Parents have more respect for teachers and there are fewer allegations of corruption because teachers no longer engage in fundraising for schools; also, teachers' salaries become transparent; and teachers trust school principals, DoE and LPAs more, as they can compare their financial reports with the actual situation.	All
Better conditions for children at school	Schools receive better products for less money, as open procurement results in greater competition between suppliers and better planning for school needs (e.g. better desks for children) (interview, Head of DoE, Kramatorsk).	DoE
Social equality	OS makes it possible to compare how much funding schools in different regions are receiving and to advocate for equitable support for all schools across all regions.	School principals, teachers

6 ● Conditions conducive to success and strategies for improving OS

6.1 Perception of requisites for OS success

The respondents – both parents and school personnel – named four main requisites for the achievement of all, or at least some, OS goals: trust among stakeholders, good communication and collaboration among stakeholders, and dedication of school administrations and of local communities. The latter reflects the intrinsic tension of any open government (OG) approach: to be effective, OG initiatives need commitment of both those who open up the governmental process and those who are the intended end-users of the process.

Graph 9. Comparison of the TOP four requisites for achieving all or some OS goals, according to parents and school personnel
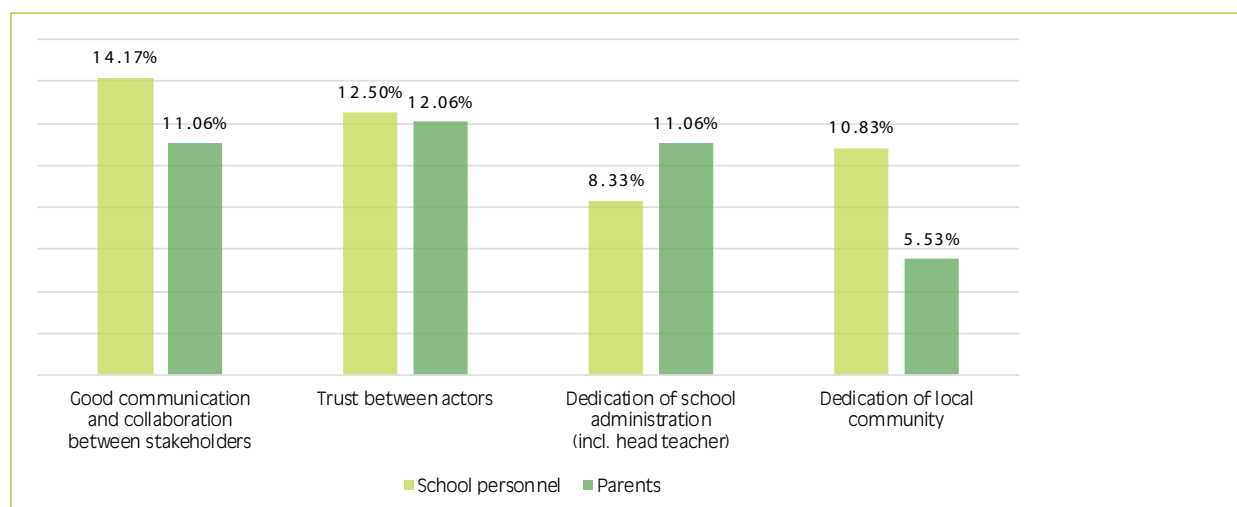
Note: Multiple options were possible for an answer, therefore n parents (answers) = 199; n school personnel (answers) = 120. The graph shows only answers that were cited at 10% or more for at least one of the stakeholder groups. Percentages were calculated from the relevant sample (parents/school personnel), contexts lumped together.

Source: Authors' compilation based on original survey data

When comparing stakeholder perceptions within their respective contexts, both in urban and semi-urban settings (see *Table 16*), parents and school personnel share the belief that good communication, cooperation and trust among stakeholders are key for achieving OS goals. Yet, there are also notable differences. For example, in urban settings, the third most common requisite cited, along with dedication of the local community, is the presence of good leadership. Urban parents also cited 'dedication of the school administration' as the most important requisite among all options, while school personnel cited it the least. Similarly, urban school personnel cited dedication of the local community as being important, while parents did not mention this at all. Interestingly, in semi-urban settings, there were no such notable differences between parents and school personnel, and unlike in urban settings, parental engagement did matter.

Table 16. Comparison of conditions mentioned for achieving all or some OS goals, by stakeholder groups and by context

Parents who are teachers	Urban		Semi-urban	
	Parents	School personnel	Parents	School personnel
Good leadership	4%	14%	7%	6%
Good communication and collaboration between stakeholders	17%	23%	10%	12%
Trust between stakeholders	13%	18%	12%	11%
Dedication of school administration (incl. head teacher)	25%	9%	9%	8%
Motivation of teachers	8%	14%	7%	5%
Dedication of the local community	0%	14%	6%	10%
Engaged parents	0%	0%	10%	7%

Note: Multiple options were possible for an answer, therefore n parents (answers) = 199; n school personnel (answers) = 120. This table only shows data for answers that were cited at the rate of 10% or more for at least one stakeholder group/context.

Source: Authors' compilation based on original survey data

6.2 Qualitative analysis of challenges and conditions for OS success

General conditions

Legislation in place

The representatives of local public authorities (deputy mayors and heads of respective DoEs) and NGOs refer to the national law that requires transparency of school finance as the central point of departure that created a demand for the development and implementation of OS. They argue that the implementation of OS is a direct response to legal requirements.

As OS is an online solution developed not by the government but by civil society, there is no assurance that this is the only system that will be implemented countrywide. Indeed, there are several competing products on the market that offer similar services. For instance, the system EduPay[51] is an online service that allows parents to donate money for certain purposes and to monitor related expenditures. The system PayWatch[52] shows the budget of educational institutions that have financial autonomy, although the system does not incorporate a payment function, nor does it show the share of donation contributions. Finally, the City of Bila Tserkva uses a unified local system of accounting and financial reporting of charity donations to educational institutions.[53] It shows the amounts donated and how they are spent; however, information about funds from the public budget is missing.

Despite several alternatives, OS developers and most users consider it worthwhile to introduce the system at national level for several reasons. First, the OS system is free of charge for schools. Second, it is the only system that provides a comprehensive package of e-services that cover different aspects of school funding, unlike the fragmented services provided by the alternatives. Third, many users have indicated they find the system to be

51 - *https://edupay.com.ua*

52 - *https://openbudget.in.ua/modules/classifier/by_edrpou/55a809316b61730709596600/01488038*

53 - *http://fond.osvita-bmr.com*

both convenient and technically user-friendly (e.g. interviews, OS administrators, Druzhkivka; heads of DoE Druzhkivka and Kramatorsk; NGO Parents' Union, Kramatorsk).

Political will

Political will is an important factor that can either foster or hamper the successful implementation of OS. Most representatives of LPAs and NGOs in Druzhkivka and Kramatorsk indicate that OS was implemented as a direct response to strong public demand, especially from parents who had raised the issue of school funding and also filed many complaints about extortion, corruption and poor conditions at their respective schools. In Druzhkivka, the Mayor, who was running for election to the national Parliament, promised to abolish fundraising from parents at schools, which became one of his major campaign issues. The LPAs perceive the OS system as a useful tool for implementing the political promises of the Mayor. As for encouraging the active involvement of parents, the NGO representative in Druzhkivka notes that this is possible only when there are positive examples of parents working in tandem with schools to request funds via OS, and authorities respond to their requests (interview, NGO 'Ukraine of Opportunities', Druzhkivka). Thus, both sides – the demand and supply side of policy – are interested in the sustainable and effective use of the OS tool. In comparison, in Kostiantynivka, where enthusiasm to sustain OS is the lowest, OS was implemented only in imitation of Druzhkivka, not in response to any existing demand.

Communication and collective efforts

Active communication between the developers, implementors and users of the OS system is a crucial factor for its success. The most active communication with different stakeholders takes place in Druzhkivka. Local NGOs like 'Ukraine of Opportunities' and 'New Druzhkivka' have been collaborating closely with the DoE from the beginning of OS implementation. In particular, they have organized multiple trainings for school principals and OS administrators. This might be the reason why most users were satisfied with the technical aspects of the system. In addition, NGO activists systematically communicate with parents (interview, NGO 'Ukraine of Opportunities', Druzhkivka).

Importantly, the communication from the NGO is not limited to informing parents about OS. 'Ukraine of Opportunities' in Druzhkivka actually teaches parents how to use OS, not only technically but also strategically. The NGOs representative speaks of their 'horizontal relationship' with parents. For example, the activists collect complaints from parents who are resisting social extortion and refusing to donate money upon request. The NGO brings those complaints to the local DoE, advocating the use of funds from the local budget to satisfy these demands instead of resorting to parent donations. 'Ukraine of Opportunities' also encourages school principals to request funds from the DoE in partnership with parents; because of personal perceptions of hierarchy, school principals are often hesitant to do this. Using social media, the NGO publishes positive examples of requests initiated by parents that resulted in schools receiving funds from the City budget for renovation. Such examples encourage parents from other schools to question the status quo and to take a more proactive approach to dealing with the issue of requests for parent donations.

In the long term, this communication strategy aims to change some cultural aspects. In particular, the NGO representative highlights that most stakeholders perceive requests for school funding as something humiliating, acknowledging their poor economic situation. Once the updated OS version has been introduced, the aim is to encourage positive competition between school principals and nominate schools that not only report their expenditures, but also actively communicate and manage their needs via OS. It is hoped that in this way parents will become less hesitant to request additional school funding for the sake of their children.

The NGO also encourages parents to organize fundraising campaigns, such as fairs, selling special school products, and other interesting events to collect donations, preferably electronically through OS. The system provides a trustworthy tool to encourage transparent e-donations in order to address the particular needs of a school. In other words, OS fosters a culture of accessibility that goes far beyond openness in terms of reporting.

The NGO Parents SOS, which operates at national level, holds a similar view with regard to OS and the accessibility of schools (interview, Parents SOS, Kyiv).

Urban vs semi-urban context

Some stakeholders in semi-urban contexts assume that the use of OS is more effective in urban contexts because parents in large cities tend to be more engaged in school life, being wealthier and more willing to donate, and because their computer literacy is higher (e.g. interview, Deputy Mayor, Druzhkivka; FG, parents, Druzhkivka; interview, school principal, Kostiantynivka; FG teachers, Kostiantynivka). In addition, a school principal in Kostiantynivka had this to say about the ineffectiveness of OS in a semi-urban context:

> *This is the fault of the city, not the platform itself. Implementation should start in major cities. If I had not liked this system, I would not have implemented it, but I did not expect some problems that arose later. There are things that do not depend on us. There are some problems in the city. This is a subsidised city, with a large unemployment rate, it is difficult. A good thing [OS], but not yet for us. It will take another ten years for us to become fully accustomed to this system* (interview, school principal, Kostiantynivka).

During the focus group, teachers in Kostiantynivka outlined a socio-economic profile of children in their school: many come from big families with low financial resources; some fathers are soldiers in the Anti-Terrorist Operation (ATO) zone, other families are internally displaced persons (IDPs). Nevertheless, there are examples of some IDPs in the city of Kramatorsk engaging actively in organizing school events despite their economically precarious situation, suggesting perhaps that parents in urban contexts are more involved in school life regardless of their difficulties.

Our data from Druzhkivka – another example of a semi-urban context – shows in contrast to Kostiantynivka, that the use of OS is as effective as in the urban context of Kramatorsk; this suggests that the factor of context (urban versus semi-urban) plays a secondary role, only becoming relevant in combination with other factors, such as the communication strategy of key stakeholders and political will. The Head of the DoE in Druzhkivka also stated that in the end, personal factors – like the attitude of the main stakeholders, such as teachers, school principals and parents – are crucial for the effective functioning of OS (interview, Head of DoE, Druzhkivka).

Challenges

Use of technology

The difference of OS use in urban vs semi-urban contexts is mainly accounted for by differences in stakeholder accessibility to the necessary technology. Accessibility means not only availability of the internet and necessary hardware (computer or smartphone), but also a willingness to trust and make use of electronic services. Mistrust of e-services seems to be an important obstacle to OS use in semi-urban contexts, and in Kostiantynivka in particular. For instance, a school principal explains:

> *The main issue* [with the use of OS] – *parents are afraid of fraud, they are afraid of electronic payments, they believe that their private information is not protected* (interview, school principal, Kostiantynivka).

During their focus group, teachers confirmed as well that not everyone can do online banking, and that some people do not trust online payments (FG, teachers, Kostiantynivka). They frame it as a psychological factor based on distrust in cashless payments.

The Head of DoE in Kostiantynivka has further highlighted that there is a lack of computers or laptops in homes and at schools, limiting the use of OS to smartphones, which is inconvenient (interview, Head of DoE, Kostiantynivka). Likewise, in Druzhkivka, both students and teachers confirm that most parents find it inconvenient to pay online (FG, students, Druzhkivka; FG teachers, Druzhkivka). Teachers estimate that around 80% of parents

have a very low level of ICT literacy (FG teachers, Druzhkivka). The issue of inadequate access to ICT was even mentioned by some teachers in urban contexts, pointing out that there are parents who do not know how to use the internet. Most of them communicate via Viber chat, while some 20% do not even have a smartphone.

Another reason offered to explain resistance to OS use is that school principals are often not used to working with electronic devices. A local activist in Druzhkivka explains that 'because of their age, school principals are used to paper reports' (interview, NGO 'New Druzhkivka'). Among teachers, it is also not easy to find a person with an affinity for using online tools. In most cases, OS is administered by informatics teachers, but not all schools even offer a class in informatics.

Resources: HR skills and funding

Although the dedication of school personnel is listed as an important factor of OS success, it is also a challenge, as their dedication is based on voluntarism only. School principals and OS administrators indicate that lack of clarity about responsibilities and duties, as well as lack of monetary motivation for the time needed to administer OS, are serious obstacles to effective use of the system:

> If administrators are not paid extra for this task, there is no incentive to have the best [online] profile. It is better to be encouraged, to be enthusiastic. If there is no payment, then there can be no punishment (interview, OS administrator, Druzhkivka).

In particular, school personnel expect that if the local DoE pushes for the implementation of OS, they have to provide a local administrator to resolve at least technical issues and clarify questions that school personnel may have (interview, trade union of teachers, Druzhkivka). Furthermore, they expect remuneration from the DoE for the maintenance of OS and reporting done via OS (FG, OS administrators, Druzhkivka).

Financial autonomy of schools

The lack of financial autonomy of schools is another significant challenge not only for the effective use of OS, but also for the general process of school budgeting. A member of the Sloviansk City Council Altunina points out:

> Without financial decentralisation, the OS application is meaningless, as it will be limited to the transparency of donations only.

Each school has a special account with the local DoE. Even if some funds are allocated to this account, the school principal still has to address a claim to the DoE for each purchase. Funding decisions are made at DoE meetings. Even if the school has collected funds via OS, through donations for particular school needs, for example, these funds will nevertheless be allocated to the special DoE account of the school, and the same procedure has to be applied each time, as only very few schools have their own accounts.

Also, school principals feel restricted by the lack of information about available funds when submitting their annual budget plan. School principals in Kramatorsk describe this situation as follows:

> Schools do not have any financial independence. At the beginning of the year, it is necessary to submit a list of school needs and a budget plan to the DoE. School principals never know in advance whether the local DoE and NKMZ [local industry donations] will allocate funds. If schools were more independent, then they would know how to plan their budgets (FG, school principals, Kramatorsk).

Thus, the budgeting process is highly bureaucratic and slow, which makes the collection of cash by parents an attractive alternative.

6.3 Strategies for improving the impact of OS systems

Obstacles to achieving OS goals

Both parents and teachers indicate the main reasons for not using OS stem from an overall lack of financial resources, as well as a lack of motivation among the key stakeholders (parents and teachers). Among parents, the two most cited reasons for failure to achieve some or all of the OS goals were: overall lack of financial resources and parents' indifference. These patterns are the same for both urban and semi-urban contexts, although some peculiarities are worth mentioning. In urban contexts, respondents mentioned the lack of specialised training just as frequently as the lack of financial resources, while the percentage of parents mentioning this reason in semi-urban settings was three times lower (15% vs 5%). Urban respondents also answered that it is too early to make any assessments of Open School just as frequently as citing lack of parental engagement, while the percentage of these answers in semi-urban settings was twice smaller (10% and 5%, respectively). When considering only the 'no goals achieved' option, lack of trust between stakeholders emerges as the third most cited reason after overall lack of financial resources and parents' indifference (see *Graph 10*).

Among school personnel, the two most cited reasons for failing to achieve any or all OS goals were (in this order): overall lack of financial resources and lack of motivation among teachers. This pattern is repeated in semi-urban settings, followed by two answers that share the third most cited place: 'lack of dedication of the local community' and 'I don't know'. In urban settings, the lack of motivation among teachers was the most cited response, followed by parents' indifference and lack of specialised training (same percentage, second most cited reasons). The options 'Lack of financial resources' and 'lack of motivation among students- shared the third place. When considering only the 'no goals achieved' option, the lack of motivation among teachers and students emerge as the most cited reasons, followed by bad or inefficient communication among stakeholders, and a lack of dedication of both the local community and the school administration.

A comparison of responses across stakeholder groups and contexts shows that the overall lack of financial resources is the concern most widely shared by parents and school personnel. The second most cited reason for failure to achieve OS goals relates to each stakeholder group's engagement: while parents identify their indifference as a main reason for not achieving OS goals, school personnel note the lack of motivation among teachers.

Graph 10. Comparison of TOP three reasons for failure to achieve OS goals according to school personnel and parents
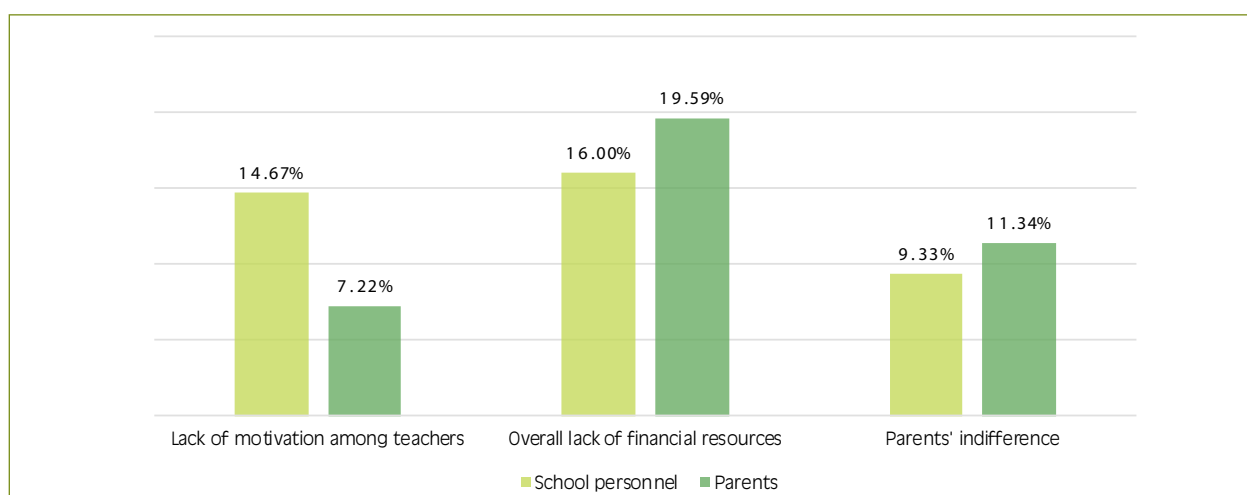
Note: Multiple options were possible for an answer, therefore n parents (answers) = 97; n school personnel (answers) = 75. The graph shows only answers that were cited at the rate of 10% or more for at least one of the stakeholder groups. Percentages were calculated from the relevant sample (parents/school personnel), contexts lumped together.

Source: Authors' compilation based on original survey data

Both in urban and semi-urban settings, parents and school personnel share the view that it is predominantly the overall lack of financial resources that impedes the achievement of OS goals (see *Table 17*). In urban settings, however, 17% of school personnel also note the lack of specialised training and parents' indifference as important obstacles in achieving OS goals, while responses from parents in this regard are more nuanced (15% and 10%, respectively). The percentage of school personnel in urban settings citing lack of motivation among teachers was almost four times higher than that of parents (22% vs 5%, respectively). In semi-urban settings, after the lack of financial resources, only the lack of motivation among teachers and the lack of dedication of the local community received more than 10% of school personnel responses, while for parents, only the option 'indifference by parents' received more than 10% (12%) of the responses. It is interesting to note that the difference in responses given by parents and school personnel for explaining the failure to achieve all or some OS goals seems to be greater in semi-urban settings than in urban settings.

Table 17. Comparison of reasons for failing to achieve OS goals according to school personnel and parents, by context

Reasons for failing to achieve OS goals	Urban		Semi-urban	
	Parents	School personnel	Parents	School personnel
Lack of motivation among teachers	5%	22%	8%	12%
Lack of motivation among students	0%	11%	0%	7%
Lack of dedication of the local community	0%	6%	6%	11%
Overall lack of financial resources	15%	11%	21%	18%
Lack of specialised training to support OS implementation	15%	17%	5%	5%
Parents' indifference	10%	17%	12%	7%
Other: the initiative is only at its starting phase (need more time to evaluate)	10%	0%	5%	5%
Other: lack of awareness about OS	10%	0%	0%	0%

Note: Multiple options were possible for an answer, therefore n parents (answers) = 97; n school personnel (answers) = 75. This table only contains data for answers that were cited at the rate of 10% or more for at least one stakeholder group/context.

Source: Authors' compilation based on original survey data

Qualitative analysis of strategies for improving OS

Increasing awareness

Most stakeholders mentioned in the interviews and FGs that it is necessary to improve communication with regard to the use of OS. For instance, teachers in Druzhkivka recognised that without the involvement of parents, OS is meaningless:

> *We adopted this system in Druzhkivka because someone above reported that we have an open government now. … The initiative should be from the bottom up, however* (FG, teachers, Druzhkivka).

Parents, who participated in the FG in Druzhkivka, suggested that both LPAs and schools could spread information about OS among parents, and encourage them to register and use the system. In addition, FG participants suggested proactive communication about the positive outcomes of OS would be helpful. Similarly,

teachers in Kostiantynivka criticised the lack of OS visibility in local media and on the internet (FG, teachers, Kostiantynivka). They suggested that a short, simple and informative video be developed to encourage parents to use the system and explain to them how to do so. The Head of DoE in Kostiantynivka confirmed that there are no strategic information campaigns concerning the use of OS (interview, Head of DoE, Kostiantynivka). The local business representative agreed that it is essential to increase awareness about OS in Kramatorsk (interview, NKMZ, Kramatorsk). The representative of the NGO 'Parents' Union' in Kramatorsk said that posters in schools might also be useful for informing parents about OS (interview, NGO 'Parents' Union', Kramatorsk).

Capacity building

Survey respondents highlighted the further need to provide more training to build capacity among teachers and parents on how to use the OS system. For instance, administrators in Druzhkivka as well as school principals in Kramatorsk mentioned that despite some instruction, they felt that the level of training was very low and insufficient for using OS to its full extent (FG, teachers and administrators, Druzhkivka; FG, school principals, Kramatorsk). Parents also need training, but it was pointed out that the available video instructions are not adequate to the task of training a broader audience (FG, teachers and administrators, Druzhkivka).

A member of the Sloviansk City Council, who politically drives the implementation of OS in the region, suggests that there should be a regional coordinator for the system in each oblast in order to provide permanent training and advice on the use of OS (interview, City Council, Sloviansk). The capacity building process for using OS should be continuous and on a regular basis in each school, as there is a permanent turnover of school personnel and parents. This might require to the local government to invest some additional resources for the regional OS coordinator. The City Council member also suggests that the local DoE cover the capacity building of school personnel, while civil society organizations can be involved in training and awareness raising among the broader population, including parents:

> This shouldn't be one-sided work, but a synergy' (interview, City Council, Sloviansk).

Although OS is available free of charge, most respondents among school personnel expect remuneration for the administrative support of the OS system and reporting they provide. Currently, OS administrators at schools are doing this work voluntarily, upon the request of the school principal. But this task is not even mentioned in their formal contract, and there is no payment for it. Implementors of OS need to consider the importance of financial incentives to motivate personnel. Without formal clarification of tasks, there is also confusion about responsibilities: OS implementation is perceived as being the initiative of the local DoE, who in turn transfers responsibility to the school principals, and then it is the teachers in informatics and accountants who are expected to take on this task. This uncertainty and shifting of responsibilities increase the dissatisfaction of key stakeholders and unnecessarily hinders operation of the OS system in schools.

Monitoring and evaluation

An OS administrator (interview) and parents (FG) in Druzhkivka claimed that LPAs pushed for the implementation of OS, but that there was no monitoring or evaluation of the system once it was operation:

> *If there had been an audit of the software in use, there might have been more motivation to run the system* (interview, OS administrator, Druzhkivka).

Similarly, teachers in Druzhkivka pointed out that key performance indicators need to be set in order to encourage meaningful use of OS, and not only its formal registration. Such monitoring would encourage the next step: a possible ranking of schools that use OS in order to motivate more schools to implement the system. For instance, local authorities and the NGO representative in Druzhkivka shared their ideas for how to motivate

schools to use OS: once the pilot phase is over and the new version of OS has been introduced, they plan to establish a structured monitoring system that will make it possible to rank the most open schools by means of OS (interview, Deputy Mayor, Druzhkivka; interview, NGO 'New Druzhkivka').

Resolving technical problems

At national level, the Director of the Ukrainian Institute of Educational Development explains that citizen participation depends highly on the user-friendly design of the ICT tool (interview, Kyiv). The Ministry of Education and other State agencies for education may have multiple large databases and statistical tools, but these tools are inappropriate for ordinary citizens. Therefore, it is important that civil society should create ICT tools accessible for the public that they represent.

Although OS is user friendly and accessible in comparison to other databases, many stakeholders consider that the need to address its technical shortcomings is an urgent matter. The City Council member in Sloviansk (interview) warns that an OG tool (such as OS) of low quality and its unprofessional implementation can lead to malpractice in the use of other OG tools, fostering mistrust and disqualifying the entire open government approach.

6.4 Limitations and risks of open government in education

There are various ways to involve citizens, and to different degrees, in policy making, from informing to consulting and empowering citizens for decision making. Critical researchers argue that more citizen participation is not always better (Fung, 2006; Harrison et al., 2012). Fung, for instance, argues:

> *There may indeed be contexts in which public empowerment is highly desirable, but there are certainly others in which a consultative role is more appropriate for members of the public than full citizen control.* (Fung 2006, p. 67)

Some interview respondents agree with the critical assessment of Fung and Harrison, and point out some risks related to OS implementation and to open government in educational planning in general.

Parental engagement

The discussion about engaging parents or not and to what extent has revealed several risks that might arise from OG in education. To put this discussion into context, it is useful to consider the degree of parental involvement by referring to the ladder of citizen participation proposed by Arnstein (1969). In a situation of full participation all stakeholders would agree that there is no information in the education process that should be hidden from citizens and that transparency should be applied without restriction. Yet, school principals in Kramatorsk have pointed out that marginalised groups have only limited access to OS, even though it is important to keep all parents properly informed (FG, school principals, Kramatorsk).

There are, however, different opinions with regard to the involvement of parents in public auditing. For instance, the new institutional audit that is currently in its pilot stage foresees consultations with parents and students by means of surveys (interview, Head of the Department of Institutional Audit, Kyiv). At the same time, the City Council member in Sloviansk states that the audit has to be conducted by professionals, either by firms or government services. She does not exclude consultations but advises against the empowerment of parents in school audits.

In the same manner, most stakeholders perceive citizen co-production in fields like educational content to be risky, because planning educational content requires that participants have professional training first. Nevertheless, the Head of DoE in Kramatorsk has provided positive examples of consultation with parents with regard to vocational training: parents were able to indicate what foreign languages they consider useful for their children at secondary school, and based on this consultation the school introduced additional courses of Polish (interview, Head of DoE, Kramatorsk).

Several respondents also pointed out that there is no such thing as a homogenous 'public'. Parents, as the main target audience of the OS system, have different interests and also different skills and capacities. This heterogeneity of the public makes its involvement challenging. However, collaboration with organized groups, such as NGOs or activist parent associations might be a good solution. For instance, the Deputy Mayor of Druzhkivka explains:

> *We have very different levels of parental* [involvement in] *education; the risk is that there will be many different opinions, making it very difficult to find a common approach. There are NGOs and citizens who provide constructive comments and offer suggestions, which sometimes lead to good results. But there are not many such responsible people. Most people love to criticise, very few know how to bring about improvement* (interview, Deputy Mayor, Druzhkivka).

The risk of having to confront a hostile public is another issue raised by teachers and school principals (e.g. FG, teachers and school principals, Druzhkivka; interview, school principal, Kramatorsk). Indirectly, this perceived risk implies an unwillingness to engage in conflict. Training in conflict resolution might mitigate such risk.

Finally, the Deputy Mayor of Kramatorsk highlighted that most parents are interested primarily in the particular school that their child is attending. They do not consider the general situation and are not able to assess common needs in other schools.

Funding

The NGO Bat'ky SOS, which operates at the national level, condemns the practice of voluntary donations collected by parents to take care of basic school needs. It maintains that the founder of schools, namely the Department of Education, must be responsible for technical issues such as renovation. It provides several examples of renovations initiated by parents that resulted in some serious technical problems, with no official agency accepting responsibility:

> *We observed a situation where parents with children in a kindergarten decided to renovate the ceiling, but disregarded a pipe with hot air installed behind it. In short, the ceiling caught fire, and the plastic began to drip. Luckily, there were no children in the class at that moment. Another example is when parents decided to supply drinking water in the classroom. Unintentionally, they damaged the water pipe that flooded the entire basement where a locker room for children was situated. In the end, the parents were not held responsible for this damage. In the Vasylkiv school, parents were annually repairing some cracks in a school wall until the entire wall collapsed. The report after the accident showed that there was a crack in the basement of the building* (interview, NGO Parents SOS, Kyiv).

In other words, even with good intentions, parents should not engage in repairs and renovation requiring substantial technical intervention: such issues are a responsibility of the DoE. Bat'ky SOS suggests that parental involvement is better suited to the organization of school events, vocational training, free time activities for students, for example.

There is another OS-related risk for school principals that the NGO has identified: a risk of misconduct by school principals if they are using OS to report on funds that they are not allowed to administer. This means

that there must be a clear separation between the school budget that is funded by the local DoE, and for which each school is accountable, and donations made by charitable foundations administered by parents who are collecting money from parents and reporting on their expenditures.

Countering this argument, some school personnel voiced their fear that parents – unless they are allowed to be involved – would reduce their contributions for schools, thus leaving no means to cover basic school needs when funding from the local budget is insufficient (e.g. FG, teachers, Kostiantynivka and Druzhkivka). For instance, although the political decision in Druzhkivka to prohibit parent contributions has resulted in some additional funds being allocated to schools by the LPA, teachers say that this does not offset the amounts normally gained from parent donations, and that they still will need these additional contributions. This leads to a situation where school principals might have to collect money 'silently' (FG, teachers, Druzhkivka). Local teachers further mentioned the risk that funding from parents will even go completely into the shadows. While, initially, parent donations were subject to at least some reporting – either annual reporting by the school or regular reporting by the parents committee during their meetings – these forms of accountability may be at risk of disappearing if the practice of parental contributions is proclaimed illegal, but schools still need to rely on this source of funding.

Data management

Open data always require proper data management, otherwise there is a high risk of misinterpretation or misuse of data. The Director of the Ukrainian Institute of Educational Development (interview, Kyiv), who was in charge of open data for the external independent evaluation (*Zovnishlie Nezalezhne Otsiniuvannia*, ZNO), which significantly reduced corruption in university admissions (Klein, 2014), provides these examples of misinterpretation of data: Journalists began creating rankings of schools based on the results of the ZNO. These rankings supposedly resulted from the general assessment of the quality of education at individual schools, even though the data had been collected for a very different purpose and did not reflect all quality indicators. Furthermore, the competition for high rankings led to cases of data manipulation that undermined trust in open data. Clearly, open data have to be managed carefully to prevent their misinterpretation and manipulation.

Box 6. Summary of strategies for improvement of OS and conditions for success

Conditions conducive to OS success
- national legislation for transparency
- political will of local public authorities
- dedication of school administration
- good leadership at schools
- dedication of local community (NGOs, parents)
- trust, good communication and collaboration among stakeholders
- synergy of LPAs, schools and NGOs of activist parents for implementation and use of OS
- urban- and semi-urban context is secondary factor, as long as the synergy of key stakeholders helps to respond to specific contextual challenges

Challenges for OS implementation
- mistrust of technology and especially online payments
- low IT literacy of OS implementors and users
- low awareness about OS among parents, parents' indifference
- blurred responsibilities, no formal assignment and no remuneration for OS administrators
- low motivation for use and implementation of OS among teachers
- lack of monitoring or evaluation of OS
- lack of financial autonomy of schools

Strategies for improving OS
- increase awareness among parents about OS, for instance through posters at schools, short informative videos targeting parents
- capacity building through DoE for OS administrators and through NGOs for parents
- appointment of regional OS administrator for technical support
- monitoring and evaluation of OS implementation by DoE
- create incentives for OS implementation, e.g. ranking of the most open schools
- address technical shortcomings (meanwhile, substantial improvements have been made in the new version OS 2.0 since January 2020)

7 ● Conclusions and recommendations

Open School in Ukraine: main findings

The case study of Open School in Ukraine analyses how an open government approach is being applied to resolve the critical issue of non-transparent school finance that corrodes trust among key stakeholders in educational planning. Open School is an online tool that visualises a school's budget, its needs and expenditures. OS also allows parents to assess school needs, to make donations, and follow the reporting of expenditures. Furthermore, OS enables transparent communication with local public authorities, as school principals can use the system to request funds from the local Department of Education to cover specific school needs. Thus, OS is most relevant and effective at two stages of educational planning, namely resource allocation and policy implementation and monitoring.

High demand for an open budget tool for schools stems from the widespread practice of parents' donations to schools that are highly controversial and legally problematic in Ukraine. The OS platforms emerged as an initiative of a civil society organisation under several favourable conditions: support of Western donors, calls to provide a tool for the implementation of new national legislation for open data, and a need for public access to information as well as transparency for public finance at schools. OS has been implemented locally as an interactive exercise among key stakeholders in education: local public authorities, schools, as well as local NGOs and /activist parents. In the two municipalities examined for this case study political will was an important factor for the top-down implementation of OS. Local authorities were inclined to resolve major issues of school finance either in the course of election campaigns or as a response to extensive citizen complaints and demand.

OS is a good example of an IT tool that can support open governance in education in several ways: it ensures transparency in the form of open data, it fosters communication and participation of key stakeholders in educational planning, and it enhances collaboration between schools and local public authorities. As a result, OS reinforces financial and managerial accountability in both horizontal and societal ways.

In practical terms, OS proposes a long-term solution for three recurring problems. First, with OS, school finance (e.g. sources and amounts of funding, justification of expenditures) become more transparent and less obtuse, thus helping to reduce suspicion of corruption among key stakeholders and instead increasing trust among them. In a society where there is a widespread assumption of rampant corruption and observable impunity for the abuse of public funds, it is viewed as normal to engage in corrupt practices whenever one has the opportunity. In other words, independent of the personal integrity of school personnel or LPAs involved in the distribution of public funds for education, there is broad mistrust and expectation of misappropriation of resources, unless school principals and LPAs proactively can prove the opposite. OS seem to be a useful tool for building trust in such an environment of suspicion.

Second, OS improves communication and collaboration between school personnel and local public authorities, which is at times challenged due to informal hierarchies and cultural norms. In practice this means that OS provides an impartial, non-personal way for school principals to request public funds for their school, and for the local Department of Education to transparently respond to this request. The transparency of this communi-

cation between schools and the DoE allows parents to monitor and assess the management of public funds for education. Based on this information, they can better decide how (and if at all) to make their own donations.

Third, comparable financial requests and reports generate information for more effective financial planning before instead of after upcoming cycles. Local authorities can statistically analyse financial flows and school needs, compare schools and regions, thus increasing the efficiency of their financial planning based on comparative analysis. Thus, OS is useful for boosting evidence-based policy making.

Indirectly, the OS platform also contributes to more equitable education outcomes at individual and school level. In the long term the use of OS will change funding patterns at schools in general. It is expected that school principals will consistently request funding from the local budget instead of relying on donations from parents. Even if local funding is currently insufficient, the requests can make future budgetary planning for education more effective and precise. In this way LPAs should be able to fund all major needs at each school. The role and the kind of donations are likely to change as well. The purpose of voluntary donations will shift, for example, to improving the learning environment, and vocational or sport activities of students. Also, a broader range of stakeholders – business, alumni, community groups–may be encouraged to donate through events and fairs at schools. In this way, pressure on individual poor families to make donations will decrease. Whether at school or regional level, the use of OS makes it possible to compare school funding across the country. This feature encourages school principals and engaged parents to advocate on behalf of disadvantaged schools. In the long term, this practice can lead to a more equitable distribution of public funds for schools.

This case study also reveals some negative consequences that OS implementation might have. First, there is a risk that schools will lack adequate funding if the financing by local public authorities remains scarce while donations from parents are decreasing. In the worst case, if donations become prohibited, they might entirely go into the shadow/unreported. To prevent this negative outcome, the focus of OS implementation should be not only on controlling school finance but also on improving financial management and ensuring ex-ante budgetary planning. Second, OS can undermine equity if implemented in a fragmented way. If NGOs advocate only for the needs of the schools participating in the OS initiative, then efforts for the impartial redistribution of public funds for schools will be compromised. Similarly, schools that have independent accounting are likely to be advantaged. Thus, DoEs should actively undertake steps to ensure that public funds are equitably redistributed to schools.

There is an assumption that the use of ICT can lead to negative outcomes in rural communities where computer literacy is low and parents are less involved in school life due to their socio-economic situation. In particular, parents with little experience in using online services will be increasingly marginalised. Schools that have no computers or no personnel to use them will also be disadvantaged. Respondents in semi-urban communities partially confirmed these assumptions. However, as this case study reveals, the factor of context – semi-urban or urban –] turns out to be secondary. The comparison of OS implementation in two semi-urban communities showed that the effects of poor IT skills and parents who are not actively involved in school life can be successfully mitigated through strategic communication and the synergy of key stakeholders. In practice this means that civil society organizations should collaborate with LPAs in three important ways: first, by informing citizens (parents, in particular) and schools about OS; second, by providing technical training for the users of the system to improve their know-how; and third, by encouraging NGOs and parental organizations to engage interested parents and show them how to use the OS tool strategically.

Box 7. Recommendations for improving OS

For DoE: Establish an effective monitoring and evaluation system for OS implementation and use at local schools ▶ Encourage and maintain systematic communication with school principals about the school's needs via OS ▶ Create incentives for OS implementation at local schools (e.g. through public recognition of most 'transparent' and 'participation-friendly' schools). ▶ Formally clarify responsibilities and procedures for technical maintenance of OS and OS data management (e.g. by appointing regional OS administrator, rewarding OS administrators at schools) ▶ Introduce data-based, ex-ante budgetary planning (e.g. planning renovation costs in advance).

For schools: Inform parents about OS (e.g. via the OS website, posters at school, in meetings with parents) ▶ Maintain active communication with both DoE and parents about funding needs (e.g. post school needs and financial estimates, send requests to DoE, encourage feedback from parents).

For NGOs, organized groups of parents: Inform citizens (in particular parents) and schools about OS (*e.g.short* informative videos) in collaboration with LPAs. ▶ Provide technical training for the users of the system to improve their know-how. ▶ Through 'learning-by-doing' empower parents to strategically use the OG tool (e.g. parents can influence school budget through ranking of needs, organizing fairs and charity events to collect donations). ▶ Ensure societal monitoring of budgetary planning and its transparency at schools. ▶ Channel parents' individual complaints into constructive communication for LPAs and schools (e.g. use petitions or complaint mechanism for LPAs, conflict mediation through dialogue between school and parents).

Open government in education as a change of paradigm

This case study of OS in education in Ukraine demonstrates that the open government approach is more than just an innovative way to solve problems. The evolving partnership between citizens and authorities as the core idea of open government indicates changes in the political culture of society and a shift of paradigms.[54] Yet, some elements of Soviet and post-Soviet political culture still dominate perceptions and informal practices in the relations between the State and society, and in the division of public and private spheres. [55]

The first relict of Soviet political culture is a strong sense of hierarchy accompanied by a passive, affirmative reaction to directives from above. This cultural aspect is strongly manifested in the relations between the local Department of Education as a school founder, and the school principal. The interviews and focus groups revealed the habit of school principals – in the perceived position of subordinates – to react to the actions of DoE, instead practicing proactive communication and projecting a sense of partnership. This is also reciprocal as evidenced in the way that DoEs tend to highlight school principals' lack of financial management skills, which leaves DoEs having to manage school finances themselves, instead of upgrading school principals' skills, for example.

Another example of how Soviet thinking remains present is the perception of public finance as being detached from citizens and their everyday needs. In the Soviet Union, citizens learned early on that the Party and its executives planned and distributed the public budget, and that no opinion or needs assessment from citi-

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54 · In particular, the interviews with stakeholders at national level in Kyiv support this observation (e.g. interviews with the Director of the Ukrainian Institute of Educational Development; member of the National Parliament responsible for the education sector; representative of the NGO 'Bat'ky SOS'; and OS founder).

55 · Some sources on the particularities of informal institutions and political culture in post-Soviet states: Karklins, 2005; Ledeneva, 2013, 2004 ane 2009; Miller, Grødeland and Koshechkina, 2001 and 2005; Miller, 2006.

zens would be sought. Similarly, the idea of being a contributor to this budget via taxation, which might have encouraged interest in distribution policies, was not present. The relative lack of interest in school budget planning and expenditures by many parents may seem like a lack of budget ownership among citizens more generally. In the Soviet Union, citizens learned to survive under conditions of permanent material shortages and, in most cases, to rely on informal networks and organized supply chains that existed in parallel to the State. The Ukraine-wide practice of citizens covering the everyday needs of students at school in parallel to the State seems like a natural continuity of Soviet practices.

Such informal networks built up around personalised exchanges of goods and services were characteristic of the Soviet and post-Soviet periods, both marked by scarcity. A similar informal supply chain is present in the self-organization of parents wanting to cover the needs of their children at school. Parents tend to trust the ability of self-management more than the capacity of authorities to address problems, and this trust serves as the basis for collective action. Thus, any initiative towards formal organization can be perceived as distancing oneself from these informal networks, as collective action was for a long time a precondition for survival in the post-communist state. This might explain the pattern of passive yet affirmative reaction of many parents to extortion in the form of donations. The interviews and focus groups on both national and local level confirm that most parents are reluctant to question the practice of donations (legally in the grey zone) or control expenditures under social pressure from their peers. Often, when there is critical feedback or resistance, this will result in the collective bullying of parents or their children.

The open government approach highlights the shift from the hierarchical, passive thinking of subordinates to a paradigm of cooperation and partnership. This new paradigm implies an equal status among main stakeholders – LPAs, school personnel, parents – who engage in partnership to address practical issues at the crossroads of their interests, capacities and responsibilities. For citizens in particular, it means that they have the capacity to improve the distribution of public resources by means of monitoring, evaluation, critique and suggestions. Furthermore, the input from citizens increases the demand for the answerability, accountability and responsiveness of authorities and school personnel.

In addition, the OG approach implies that citizens have the right of ownership over public resources. The State no longer constitutes a parallel sphere to the everyday life of citizens. Instead, authorities are service providers, who distribute public resources according to the needs of citizens. For this to happen, citizens have to actively engage with the open government process and communicate their needs. Open School gives parents the means to make sure whether the school has legitimately requested necessary funds from the local budget before they cover school needs with their own donations.

Some reference to post-communist thinking is also useful to contextualise the discussion about greater equality and equity as outcomes of the open government approach. The pre-assumption that everyone is already equal was shaped by 70 years of Soviet political ideology and translated in the post-Soviet state into a disregard for individual circumstances of citizens. This assumption of universal equality is behind the social pressure that now drives massive donations from parents in schools across the country as an alternative source of educational funding. In this process, pressure for equality often significantly outweighs considerations for equity. Thus, the behavioural patterns in line with the communist idea of social equality – i.e. that everyone has to contribute in the same way – results in the hidden (social) or open (bullying) pressure on economically vulnerable groups.

Recommendations for open government in education

In most cases, the implementation of the open government approach means changing the behaviour of stakeholders, who will require motivation, resources and new skills in order to adapt to the new processes. At the same time, this also means that multiple stakeholders will be involved. In this interplay, it is very likely that some stakeholders will be eager to stick to old, familiar practices. Thus, the main challenge to implementing OG tools, such as OS, is learning how to motivate reluctant and/or passive stakeholders to change the status quo and embrace innovation. The analysis of the OS initiative allows several recommendations in this respect.

▶ First of all, an appropriate institutional framework and strong national open data policies are the main prerequisites for developing and implementing OG initiatives at local level. Among school principals and DoE, the duty to comply with legislation and fulfil the norm of transparent budgeting and appropriate reporting outweighs the reluctance and lack of motivation to engage with new tools or have a dialogue with additional stakeholders.

▶ Second, the OG approach is based on the assumption that there is an engaged public, and thus its implementation can only be successful if there is strong bottom-up support for the initiative. If public authorities insist on implementing an OG initiative from the top down, they will need strong partners in civil society and a well-elaborated strategy for citizen mobilisation in order to be successful. It is necessary, but insufficient, just to inform citizens about the initiative. Also, it is important to keep in mind that there is no such thing as a homogenous 'public' but rather a very heterogeneous society with different interests and skills. Accordingly, the strategy for mobilising citizens will require further steps: identifying the active core or targeting a relevant group of people interested in social change and initiating practical training with 'learning-by-doing' to build up social capital for productive collaboration. While public authorities can outsource the mobilisation of citizens to appropriate NGOs, they remain responsible for ensuring answerability and accountability (e.g. reacting to the complaints of parents and implementing necessary reforms). Mobilisation activities should also be consistent and regular, repeated over reasonable periods of time and part of the educational planning cycle.

▶ Third, communication and collaboration among multiple stakeholders are the essence of the OG approach. Communication means that requests from the public – either by petition, complaints or consultation – must receive an appropriate answer. In other words, authorities have to either react or explain their non-action to citizens. Otherwise, citizens will remain passive and unresponsive. Besides, it is essential that stakeholders in the OG process take a constructive approach to communication and invest their capacities in a joint effort to improve policy outcomes. Nonetheless, a critical dialogue often involves some negative criticism. Thus, it is crucial to have moderated communication channels and elaborated feedback loops (e.g. public hearings, complaint mechanisms, petitions). In addition, the presence of a coordinator, who at the same time facilitates dialogue and manages conflict, might be helpful in transforming critique into meaningful feedback.

▶ Finally, if the OG mechanism involves open data processing, it requires a handy and accessible technological tool good data management. A technological solution of low quality can seriously hamper both the involvement of citizens (e.g. parents) and collaboration between institutions (e.g. schools and LPAs). To address these issues, it is useful to have a pilot project to run a user experience test of the IT tool, collect the feedback from participants and improve it accordingly. Further, an OG process based on open data can only unfold its public value under conditions of proper data management. This includes an audit of data that is uploaded: e.g. Are the requests for funding appropriate? Are the reports about financial expenditures correct and consistent? It also includes further data analysis in order to be able to statistically estimate the budget for schools and plan expenditures for the future. Finally, necessary skills for data managers must be acquired through training, while their involvement in the process should be rewarded or at least recognized.

Replication possibilities

Although Open School is a relatively new OG tool that needs significant improvements, its implementation and early evidence of positive outcomes provide several lessons for the design and implementation of other OG initiatives. The literature reviews of successful OG initiatives suggest several steps for implementing a successful OG process (Huss and Keudel, 2020; Williamson and Eisen, 2016).

▶ First of all, OG initiatives have to resolve a complex societal problem that mostly requires multiple stakeholders changing their behavior and overcoming the collective action dilemma (e.g. deciding whether to cooperate or not). Thus, the OG initiator has to define the expected impact as clearly as possible, identify appropriate stakeholders for the OG partnership, and decide on the best mechanism for change. It is important to keep in mind that transparency, participation or even accountability are not goals, although these are possible tools to reach the desired result.

▶ Second, the identification of partnership stakeholders should include assessment of their capacities and responsibilities with regard to OG initiatives. Defining their roles includes defining power relations between school principals, agents and clients, and deciding who provides the information (agent) and who uses the information (client) and controls (principal) it. The mapping of OS stakeholders suggests that an interplay of civil society representing parents (principal but also client), (local) public authorities (agent for the citizens, principal for the schools) and school personnel (agent) is appropriate to cover the necessary roles for making Open School successful.

▶ Third, depending on the common issue that the stakeholders want to resolve through their partnership, they should work together to elaborate appropriate OG mechanisms. For instance, in the case of OS in Ukraine, the goal is to ensure an efficient and effective distribution of public resources in education while decreasing corruption risks associated with donations. Thus, open budgeting is an appropriate OG approach to reach this goal. The OS initiative has open data as a starting point. Based on open data, citizen engagement and collaborative service delivery, as well as societal and horizontal auditing, become the main mechanisms to bring about the desired change.

▶ When open data is the starting point, it is crucial that the published data be useful and accessible to both the principal and the client. Individual financial reports, already published by some schools and available at the time when OS was launched, provided fragmented and non-comparable information. In response, OS was developed as a user-friendly online tool that organizes data from multiple sources (funding from public and private entities, expenditures, school needs) and presents it in a format that is accessible for targeted stakeholders, namely, individual and organized groups of parents. Accessibility also means that data providers and users have the necessary technology and skills to access data. Thus, the training aspect is very important.

▶ Fourth, transparency does not necessarily lead to action. Therefore, coordination and a societal space that enable action is necessary to ensure that information becomes useful and accessible. For instance, when the list of a school's needs is published under the OS system, parents have a range of choices for action: they can either address the school principal with suggestions to change the priorities if they disagree with the stated needs, or they can support the school in requesting funds from the local Department of Education by means of advocacy campaigns, complaints, or petitions. Parents can also donate money themselves to cover the school needs or organize fundraising events to generate the necessary resources.

▶ Fifth, the political will of (local) public authorities, meaning their answerability and responsiveness to the request for change, is crucial not only to encourage further citizen engagement, but also to reach a goal and resolve a societal problem. An example of answerability is when the local Department of Education responds to parental complaints about the school collecting money for basic needs. The DoE analyses school requests and

expenditures via OS, provides parents with the evidence that these needs are already covered and prevents double-funding in this way. An example of responsiveness is when the DoE reacts to school requests for renovation and covers the costs that otherwise would be covered by donations requested of parents.

▶ Finally, an open government mechanism, such as OS, shows an impact when transparency (output) leads not only to greater action (outcome), but also to greater coordination among parents (principal) in their efforts to change the incentives of educational authorities and school personnel (agents). This can determine whether or not the OS initiative has the capacity to increase the effectiveness and efficiency of public education budgets so that parents' donations become a truly voluntary source of funding for schools. Although the OS initiative has yet to reach this long-term goal, it shows some encouraging prospects that confirm three essential determinants for a positive OG impact: political agency, the quorum and group efficacy (Williamson and Eisen, 2016, p. 14). This case study has shown that most of the OS achievements were made possible by a constellation of conditions in a conducive environment: active NGOs that believe that they can and should participate in the political sphere (political agency), who strategically work to create a quorum – a critical number of engaged parents who, despite social pressure, incite new behaviour (e.g. enforce requests for funding from the DoE, organize fundraising events instead of passively collecting cash). And communication about success stories ensures group efficacy, when individuals expect meaningful change thanks to group action.

Bibliography

Antoshchuk, Y. 2018. *'Скільки коштів щороку збирають школи з батьків./ How much money schools raise from parents each year'* OpenSchool (blog). 23 March 2018. *https://blog.openschool.in.ua/?p=15*.

———. 2019a. *'Більше 4 млрд грн залишилось невикористаної освітньої субвенції за 2018 рік./ More than UAH 4 billion of unused educational subvention in 2018 remained'* OpenSchool (blog). 25 February 2019. *https://blog.openschool.in.ua/?p=302* .

———. 2019b. *'Результати аналізу шкільних сайтів Херсонської області. /Results of the analysis of school sites of the Kherson region OpenSchool platform blog'* OpenSchool (blog). 2 December 2019. *https://blog. openschool.in.ua/?p=473*.

Beichelt, T., Hahn, I., Schimmelfennig, F. and Worschech, S. (eds.) 2014. *Civil Society and Democracy Promotion*. Hampshire: Palgrave Macmillan.

Cabinet of Ministers of Ukraine. 2017. Розпорядження Про затвердження плану заходів на 2017-2029 роки із запровадження Концепції реалізації державної політики у сфері реформування загальної середньої освіти 'Нова українська школа ./ Order on approval of the action plan for 2017-2029 on the implementation of the Concept of state policy in the field of reforming secondary education 'New Ukrainian school' *https://www. kmu.gov.ua/npas/pro-zatverdzhennya-planu-zahodiv-na-20172029-roki-iz-zaprovadzhennya-koncepciyi-realizaciyi-derzhavnoyi-politiki-u-sferi-reformuvannya-zagalnoyi-serednoyi-osviti-nova-ukrayinska-shkola*.

Homaniuk, M., Danylienko, I., Antoshchuk, Y., and Markeliuk, A. 2020. *Школа очима батьків: Громадське сприйняття якості надання загальноосвітніх послуг в Україні/ School through the eyes of parents: Public perception of the quality of service in secondary education in Ukraine*. Kherson: Гілея. *https://drive. google.com/file/d/1kEjpqslQate6KyfoETXJGxfWj0vGKhYx/view?usp=sharing&usp=embed_facebook*.

Horban, Y. 2018. *'Батьківський комітет: не грошима єдиними./Parents' committee: not only about money'* UkrInform. 5 February 2018. *https://www.ukrinform.ua/rubric-society/2396761-batkivskij-komitet-ne-grosami-edinimi.html*.

Hughes, T. and Huss, O. 2017. *Ukraine Handbook on Transparency and Citizen Participation*. Council of Europe. *https://rm.coe.int/handbook-ukraine-eng/168078406c*.

Huss, O. and Keudel, O. 2020. *Open Government in Education: Clarifying Concepts and Mapping Initiatives*. Ethics and Corruption in Education. Paris: UNESCO. IIEP. *http://www.iiep.unesco.org/en/ open-government-education-clarifying-concepts-and-mapping-initiatives-13372*.

Karklins, R. 2005. *The System Made Me Do It: Corruption in Post-Communist Societies*. New York: M.E. Sharpe.

Klein, E. 2012. *'Academic Corruption and Reform in Russia and Ukraine.'* In Governance Failure and Reform Attempts after the Global Economic Crisis of 2008/09, edited by Heiko Pleines and Leonid Kosals. Stuttgart: Ibidem.

———. 2014. *'Post-Soviet Anti-Corruption Reforms in Higher Education: Explaining the Success of External Independent Testing in Ukraine.'* EMECON 1.

Ledeneva, A. 2004. *'The Genealogy of Krugovaya Poruka: Forced Trust as a Feature of Russian Political Culture.'* In *Trust and Democratic Transition in Post-Communist Europe*, edited by Ivana Markova, 84-108. British Academy. *https://doi.org/10.5871/bacad/9780197263136.003.0005*.

———. 2009. *'From Russia with "Blat": Can Informal Networks Help Modernize Russia?'* Social Research 76 (1): 257–288.

———. 2013. *Can Russia Modernise? Sistema, Power Networks and Informal Governance.* Cambridge; New York: Cambridge University Press.

MES. 2018. *'Освіта в Україні: Базові Індикатори /Education in Ukraine: Basic Indicators.'* Informatsiyno-statystychnyi biuleten. Kyiv: Institute of educational analytics.

———. n.d. *'Загальна Середня Освіта./General Secondary Education'* Government of Ukraine. Ministry for Education and Science. Accessed 2 April 2020. *https://mon.gov.ua/ua/tag/zagalna-serednya-osvita*.

Miller, W. L. 2006. *'Corruption and Corruptibility.'* World Development 34 (2): 371–80. *https://doi.org/10.1016/j.worlddev.2005.03.008*.

Miller, W. L., Grødeland, A. B. and Koshechkina, T. Y. 2001. *A Culture of Corruption? Coping with Government in Post-Communist Europe.* Budapest: Central European University Press.

———. 2005. *'Bribery and Other Ways of Coping with Officialdom in Post-Communist Eastern Europe.'* In *Political Corruption: Concepts & Contexts*, edited by Arnold J. Heidenheimer and Michael Johnston, 3rd ed. New Brunswick, N.J: Transaction Publishers.

Nitsova, S., Pop-Eleches, G. and Robertson. G. 2018. *'Evaluating four years of reform'*. PONARS Eurasia. Washington D.C.

Novosad, H. 2020. Можливості для учнів, зарплати для вчителів, конкуренція та позапланові перевірки шкіл: інтерв'ю Ганни Новосад/ Opportunities for students, salaries for teachers, competition and unscheduled school inspections: interview with Hanna Novosad, Interview by Kateryna Khoroshchak. *https://life.pravda.com.ua/society/2020/02/27/240023/*.

OECD. 2017. *'Corruption Prevention in the Education, Extractive and Police Sectors in Eastern Europe and Central Asia.'* OECD Anti-Corruption Network for Eastern Europe and Central Asia. *https://www.oecd.org/corruption/acn/OECD-ACN-Study-Corruption-Prevention-Sector-Level-2017-ENG.pdf*.

OGP. n.d. *'Ukraine: Open Government Partnership.'* Accessed 2 April 2020. *https://www.opengovpartnership.org/members/ukraine/*.

Open Data Charter. 2015. *'International Open Data Charter.'* *https://opendatacharter.net/principles/*.

Parliament of Ukraine. 2011. *Закон України* Про доступ до публічної інформації./*Law of Ukraine* On Access to Public Information. *https://zakon.rada.gov.ua/go/2939-17*.

———. 2017. *Закон України* Про освіту./*Law of Ukraine* On Education. *https://zakon.rada.gov.ua/go/2145-19*.

———. 2020. *Закон України* Про повну загальну середню освіту./*Law of Ukraine* On Full General Secondary Education *https://zakon.rada.gov.ua/laws/show/463-20#n852*.

RPR. 2015. *"Дорожня карта реформ РПР для Верховної Ради VII скликання./ RPR Roadmap for reforms to the Verkhovna Rada of the VII convocation"* Reanimation Package of Reforms. *https://rpr.org.ua/wp-content/uploads/2015/11/Dorozhnya-karta-reform-RPR-dlya-Verhovnoji-Rady-Ukrajiny-VIII-sklykannya.pdf*.

Sukharyna, A. 2017. *'Побутова корупція: що про неї думають українці./ Everyday corruption: what Ukrainians think about it'* Public opinion poll. Kyiv: Ilko Kucheriv Democratic Initiatives Foundation: *https://dif.org.ua/uploads/pdf/10747785215b322e17c5f599.88913792.pdf*.

Union Fund. 2019. *'Technical Task v 2.0 for the Unified System of Open School Budgets'*. Kharkiv.

Williamson, V. and Eisen, N. 2016. *'The Impact of Open Government: Assessing the Evidence.'* Working Paper. Washington, DC: Center for effective public management at Brookings.

Appendices

Appendix 1. School selection criteria

Case	School	Selection criteria			
		1- Automatic data only	**2- Added info on donations**	**3- Added info on needs, invoices and/or requests for funding**	**4- Potential impact**
Semi-urban: Druzhkivka and Kostyantynivka					
1	School no. 17, Druzhkivka; School no. 3 with autonomous accounting, Kostyantynivka	X			X
2	School no. 6 (12), Druzhkivka		X		
3	School no. 2, Kostyantynivka			X – wants to stop using the system	
4	School no. 7, Druzhkivka				X – makes requests for funding/invoices
Urban: Kramatorsk					
1	School no. 13		X – donations from companies		
2	School no. 5		X – donations from parents		
3	School no. 20			X – needs and invoices	
4	School no. 26			X – needs only	
5	School no. 23				X – school addressed learning needs (interactive classroom)

Appendix 2. Focus groups

Group	Number and gender of participants
Kramatorsk (urban)	
School principals	6 women
Teachers	6 women
Parents	5 women
Students	4 girls and 1 boy
School-level administrators of OpenSchool	5 women and 1 man
Druzhkivka (semi-urban)	
School principals	2 women and 3 men
Students	3 girls and 3 boys
Teachers – mixed city-level group	2 women and 1 man
Parents	4 women
Teachers and OpenSchool school-level administrators	4 women
Kostiantynivka (semi-urban)	
School principals	11 women
Teachers	3 women and 1 man

Appendix 3. Description of survey samples by context and gender

	No. of schools	No. of filled questionnaires	Average per school	Male	Female
Parents					
Urban (Kramatorsk)	5	46	9.2	1	45
Semi-urban	8	71	8.9	0	68
• Druzhkivka	6	55	9.2	3	52
• Kostiantynivka	2	16	8.0	0	16
Total parents	13	117	9.0	4	113
School personnel					
Urban (Kramatorsk)	4	10	2.5	1	9
Semi-urban	9	58	6.4	3	55
• Druzhkivka	6	44	7.3	2	42
• Kostiantynivka	3	14	4.7	1	13
Total teachers		62		3	59
Total other (administration)		6		1	5
Total school personnel	13	68	5.2	4	64

Appendix 4. Mapping of stakeholders

Type of stakeholder	Roles and responsibilities	Main activities	Importance for implementation of OS*
Central level			
Ministry of Education and Science (MES)	Funds salaries of pedagogical staff, some maintenance work and purchase of IT, school buses via subventions to LPAs.	Sets political agenda for OG, conducts school audit (pilot stage as of Nov 2019), no particular involvement in OS initiative. Owns, structures, and provides access to open financial data.	Moderately relevant
Ministry of Finance (MoF)	Provides open budget data on state and municipal education expenditure.	Hosts an open data portal *https:// spending.gov.ua/*, from where OS sources data on expenditure.	Critical facilitator
Ministry of Digital Transformation (MoDT)	Develops strategic vision for digitalisation.	OS developers consider the MDT as a potential future owner of OS to implement the system at the national level; will develop schools' digital identifiers.**	Potential user, potentially relevant as facilitator at national level Moderately relevant facilitator
Parliament of Ukraine	Provides legislative framework for the education sector	Adopted Art. 30 of the Law on Education that obliges secondary education institutions to publish information about finances and donations that the school receives, as well as its expenditures.	Critical facilitator
NGO Union Fund	Came up with the OS concept and developed the OS platform.	Developing and maintaining OS platform; creating partnerships with local NGOs and LPAs; providing training on technical use of OS; providing technical support to school administrators and implementation assistance of the system.	Critical facilitator
International level			
EU Anti-Corruption Initiative (EU programme) US embassy in Ukraine Freedom House International Renaissance Foundation	Donors	Provided grants to the Union Fund for the development, implementation and technical support of OS. Supports advocacy of the system on the national level ('sandwich effect'). Supports the positive image of NGOs in their countrywide promotion of OS.	Critical facilitator

Local level

LPA representatives: mayor and deputy mayor, City Council	Setting political agenda, priorities for the distribution of public resources for the maintenance of schools, salaries of technical and administrative staff and transportation of pupils**	In Druzhkivka, abolishing parents' donations to schools was an issue in the mayor's election campaign. The LPAs in Kramatorsk were willing to introduce OS as a reaction to numerous complaints about non-transparent school funding by parents.	Significant facilitator (amplifier)
Local CSOs (NGO 'New Druzhkivka', NGO 'Ukraine of Opportunities', NGO 'Kramatorsk Parents' Union'	Advocate OS implementation at the local level	Identifying local school needs; supporting political will and favourable constellation of stakeholders for innovation, and brokerage between the Union Fund and LPAs.	Significant facilitator (amplifier)
Local branch of Trade Union of Education and Science Workers of Ukraine (TUESWU	Protection of labour and socio-economic rights of teachers	Did not have any activities connected to OS.	Currently not relevant, but potential amplifier
Local Department of Education (DoE) (Upravlinnia osvity)	Provides funding for the maintenance of schools as a school 'founder' (zasnovnik) Coordinates implementation of OS in a community	Organized information workshops on OS; providing methodological instruction for schools to join the OS system; co-ordinated contacts between schools' administrators and OS developers; organizing training for directors and school administrators.	Critical facilitator
Business (Kramatorsk)	Co-funding of schools	Providing donations to schools and kindergartens. No direct involvement in OS implementation, although interested in the system, as it provides transparency about funding, which is good publicity for the company.	Potential user
School principal	Oversees implementation of the OS system in their school	Deciding on OS school-level administrator, on the type of information to upload on school profile, controlling school profiles, informing parents.	Critical facilitator
OS administrators at individual schools (mostly IT teachers, other teachers, or administrative staff , who are computer proficient)	School profile maintenance	Deciding on OS school-level administrator, on the type of information to upload on school profile, controlling school profiles, informing parents.	Critical facilitator
Accountant	Financial reporting	Providing bills and financial reports to OS administrators for uploading.	Potentially relevant

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Teachers	Communication between school personnel and parents	Main communication chain between school personnel and parents, informing parents of OS system, communicating about school needs for possible donations.	Significant user
Parents	Social accountability through oversight of schools and appeals to LPAs User of OS	Sending complaints to the LPAs about non-transparent funding. Providing contributions/ donations; monitoring expenditures; deciding on expenditures.	Critical user

* Critical facilitator/user – without them the system cannot function; significant facilitator/user (amplifier) – they provide amplifying functions, like communication and engagement; moderately relevant facilitator/user – 'nice to have' onboard, but could do without them; not relevant for the implementation or maintenance of the OS system.

** Individual digital identifiers for schools are needed to ensure automatic correct allocation of expenditures of state and municipal budgets to school profiles. Especially in cases of centrally administered accounting, there are currently errors in the presentation of some school budgets.

*** *Source:* briefing paper by the Ministry of Education, which was provided to the research team by the state expert group on budgeting issues of the Directorate of Strategic Planning and European Integration of the Ministry of Education and Science.

The case study

This case study developed as part of IIEP-UNESCO Research Project 'Open Government: Learning From Experience' analyses how an open government approach is being applied in Ukraine to resolve the critical issue of non-transparent school financing through parents' donations that undermines trust among key educational stakeholders. Developed in 2016, the Open School Platform (OS) is an online tool that allows parents to visualise the school's budget, needs and expenditures in an easy-to-read format.

The study shows that OS has contributed to: improved trust among key stakeholders, improved communication and collaboration between school personnel and local public authorities, and more effective planning. But it also confirms that the use of ICT can lead to inequalities in poor rural communities having low levels of Internet access or computer literacy.

It concludes on the importance of open government for shifting to a new paradigm of cooperation and partnership. And it recommends providing access to information in line with the Open Data Charter; ensuring a legal framework for citizen participation; using handy and accessible technological solutions; and following a 'learning-by-doing' approach to build up social capital for constructive interaction with authorities.

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