

Jan Herczyński

SN 122

“Support to Decentralization in Ukraine”

SKL International, Kiev

(+48) 501 048 500, [jan@herczynski.eu](mailto:jan@herczynski.eu)

## Legislative Basis of Education Statistics in Ukraine

1. The current system of education statistics in Ukraine .....	2
2. The principles of new statistical system .....	4
3. Proposed structure of legislation of education statistics .....	6
4. Next steps .....	7
Annex A. Graphs displaying the reporting and aggregation of statistical forms .....	8
Annex B. List of legal acts cited .....	10

Availability of complete, trustworthy information about the education system is a prerequisite of designing and implementing evidence-based education policy in every country. In decentralized education system this need becomes more acute, because the removal or weakening of so called *vertical*, that is of hierarchical management and reporting structure stretching from the Ministry of Education and Sciences (MES), through regional and local education offices, down to individual schools, makes collecting information and managing the system more difficult. Instead, countries rely on national education databases, so called education management and information systems (EMIS).

Ukrainian reformers were well aware of this problem and since the start of decentralization process in 2015 put an effort into creating a national electronic database of education statistics. In this effort MES was supported by the Ukrainian-Swedish Project “Support to Decentralization in Ukraine” (SDU). EMIS-type system DISO was implemented in 2016. A more modern system AIKOM was delivered in 2020, but is not yet implemented (more detailed history of implementation of EMIS-type systems in Ukraine is recalled in Short Note 120). It is expected that the significantly updated system AIKOM will become available for testing, for pilot implementation and for national roll-out some time in 2021.

Today, education statistics in Ukraine is based on multiple initial and aggregated statistical forms, submitted by schools and by different levels of governance (see section 1, Annex A). The statistical forms are defined in many different Decrees, adopted at different times and not always mutually compatible (see Annex B). In order to fully use the capacities of new AIKOM it is proposed to replace this rather chaotic system by a much simpler one. The multiple statistical forms should be replaced by simple registries of schools, teachers, and students in a national electronic database (section 2). Similarly, the legal basis of education statistics should become much simpler (section 3). Without such a reform, AIKOM will remain, as DISO system still remains, simply a digitalization of existing, old-

fashioned statistical forms (see section 1), and its full capacity of flexibility and simplicity will not be used in practice. For this reason, the new education information system should be implemented together with a new legislative basis. SDU experts are available to work alongside MES experts in this direction.

The purpose of the present Short Note 122 is to discuss strategic issues of creating a legislative basis of a modern, electronic system of education statistics in Ukraine. We review the current system of education statistics and point out its limitations (section 1), we propose basic principles on which the new legislative system should be built (section 2), and we formulate concrete proposals regarding required legal acts and their content (section 3). The final section discusses next steps to be undertaken by MES

The present SN is a continuation of technical cooperation of MES and the SDU regarding education statistics in Ukraine. The problems of implementation of electronic EMIS-type database were the subject of numerous short notes prepared by SDU experts and submitted to MES, most recently SN 90 (February 2018), SN 107 (December 2018), SN 114 (October 2019), and SN 120 (December 2020). Review of the overall system of education statistics was undertaken in SN 65 (February 2017). Legal basis of EMIS-type systems was the subject of SN 109 (December 2018), but this SN did not cover legislation of education statistics.

Acronyms used in the present SN are listed in the following table.

MES	Ministry of Education and Sciences of Ukraine Міністерство освіти і науки України
MF	Ministry of Finance of Ukraine Міністерство фінансів України
CMU	Cabinet of Ministers of Ukraine Кабінет Міністрів України
SDU	Ukrainian-Swedish project “Support to Decentralization in Ukraine”
SSSU	State Statistical Service of Ukraine Державна Служба Статистики України
AIKOM	Automated Information Complex of Education Management Автоматизований інформаційний комплекс освітнього менеджменту
DISO	State Education Information System Державна інформаційна система освіти
EMIS	Education Management and Information System
SN	Short Note

## 1. The current system of education statistics in Ukraine

The current system of education statistics is built on the concept of *statistical forms*. Statistical forms are documents defined in Orders of the Ministers of Education and Sciences of Ukraine, agreed with the State Statistical Service of Ukraine, which are used to collect and aggregate statistical information from schools and other educational institutions.

The origins of statistical forms refer to Soviet times, when statistical data were collected on paper. The statistical forms were printed out and filled-in manually by the schools. Schools submitted their

statistical forms to rayons and cities, who aggregated them (summed the relevant data items such as the number of students of their all schools). Typically, the aggregated statistical form had the same name and structure as the statistical form used by schools (for example, statistical form 83-RVK from schools is aggregated to statistical form 83-RVK of rayons). In some cases the statistical forms from schools were aggregated in different statistical forms (for example, statistical forms ZNZ-1 are aggregated to statistical forms 76-RVK, ZNZ-2 forms are aggregated to ZV-1), or more than one aggregation was prepared, according to the needs of the Ministry (for example, statistical forms D-4 and similar are formed on the basis of statistical form ZNZ-1). Rayon and city education offices submitted the aggregated paper statistical forms to oblast administrations. Further, the oblast administrations conducted aggregation at the regional level and submitted the aggregated statistical forms to the Ministry. The schedule of the submission was legally regulated, indeed each printed statistical form included dates of successive submissions. In the nineties, the process was partially digitalized.

It is important to note that under this system, oblasts know only aggregated data for their rayons and cities (they do not have access to data on individual schools), while the Ministry knows only the aggregated data at the level of regions (they do not have access to data on individual rayons and cities). This was also the standard form of publication of statistical data, by region and by urban/rural location of the school. Very clearly, the system of statistical forms was developed before onset of electronic databases and was well suited to available technology, namely paper.

The following table lists the main statistical forms for day secondary schools. The list below is not exhaustive. Apart from the name of the statistical form (we provide both English and Ukrainian spelling), we briefly formulate the scope of data collected and identify the legal act defining the statistical form, which is the decree either of MES or of SSSU (we cite the most recent edition).

<b>Form</b>	<b>Scope of collected data</b>	<b>Legal basis</b>
ZNZ-1 ЗНЗ-1	Day general secondary schools: students, school facilities	Наказ МОН від 27.08.2018 № 936
76-RVK 76-PBK	Aggregated ZNZ-1 form	Наказ МОН від 27.08.2018 № 936
ZNZ-2 ЗНЗ-2	Evening general secondary schools: students, school facilities	Наказ МОН від 02.07.2012 № 766
ZV-1 ЗВ-1	Aggregated ZNZ-2 form	Наказ МОН від 02.07.2012 № 766
1-ZSO 1-ЗСО	General secondary schools, continuation of education after grade 9	Наказ МОН від 12.02.2007 № 119
83-RVK 83-PBK	Teachers of general secondary schools	Наказ МОН від 27.08.2018 № 937
85-k 85-к	Preschools: students and staff	Наказ ДССУ від 16.07.2018 № 150
1-DBSh 1-ДБШ	Boarding houses:	Наказ МОН від 25.11.2009 № 1064

In addition, aggregated statistical forms D-4, D-5, D-6, D-7-8, and D-9 (Д-4, Д-5, Д-6, Д-7-8, Д-9) are formed on the basis of ZNZ-1 form at the territorial gromadas, regional and national level, as regulated in Decree of MES (Наказ МОН від 03.10.2018 № 1062). These aggregated statistical forms

have been introduced long time ago to allow the Ministry to have access to more detailed information than simply aggregated statistical form 76-RVK, but their processing requires significant effort at city, regional, and national levels. The overall flow of statistical data is shown in three graphs in Annex A. The full details of the decrees are provided in Annex B.

It is worth pointing out that in July last year the statistical form 85-k has been discontinued from operation (Наказ ДССУ від 23.07.2020 № 226), however it has not been replaced yet by a new statistical form and is therefore still used for collection of data on preschools. Similarly, evening schools are no longer a separate category of education institutions, but their statistical forms ZNZ-2 are still used.

Further, we note that territorial gromadas are obliged to submit statistical forms 77-RVK (77-PBK), detailing number of school-aged children living in their territory. These statistical forms are aggregated at the regional and national level, as regulated in the Decree of MES( Наказ МОН від 27.08.2018 № 938).

We conclude this section with formulation of key deficiencies of the statistical forms as the basis of education statistics:

- The system is non-transparent, it consists of a large set of different statistical forms, introduced at different times in the past, with different reporting and aggregation schedules, with different instructions, with chaotic naming convention.
- The system is very rigid, every change in the statistical forms requires prior approval of the State Statistical Service and of Ministry of Justice.
- Over time, the tables of data in the statistical forms become very complex. Data items not naturally fitting into the tables are somewhat chaotically added as additional entries in the text between the tables.
- Production, verification, and correction of aggregated statistical forms are time-consuming and require involvement of multiple levels of government (they become unnecessary when electronic collection is used).
- The schedule of data entry and verification is very long and corresponds to the needs of paper-based systems (it can be much quicker with electronic system).

There are also some additional deficiencies due to specific process of data collection and verification in Ukraine:

- During data collection, aggregated statistical forms are often corrected on paper. These corrections made at the regional or national level are no longer reflected in the original data submitted by the schools, leading to internal discrepancies of data.
- It is difficult to adjust in time the different statistical forms when education legislation changes (for example, when types of schools change), so sometimes the statistics does not correspond to active legislation.

## **2. The principles of new statistical system**

With the advent of electronic databases and ability to submit data over the Internet, the statistical forms, as described in section 1 above, have become obsolete and cumbersome to use. The modern

approach to data collection in education is through the use of EMIS-type systems (education management and information systems). In other words, the whole collection of different statistical forms should be abandoned and a clear obligation on schools to collect data in AIKOM should be introduced.

While every country defines their EMIS system in a different way, we can formulate general principles on which all these systems are based:

- The system is a national database, maintained at the national level by the Ministry or by its subordinate institution. However, there may be regional and local subsystems.
- EMIS typically covers all pre-university education institutions, starting with preschools, schools of different level, extra-curricular education institutions, and similar. Public and private institutions are included.
- The system collects data on individual students and on individual teachers. Any information about groups of students and group of teachers (however defined) is produced automatically through aggregation.
- Only data from individual schools and other education institutions are entered into the system. Aggregation is conducted automatically. A large collection of aggregated statistical reports are automatically produced by the system.
- The system includes automated verification procedures, to minimize the number of errors. In addition, procedures are in place to allow for independent verification of data entered by the schools.
- The Ministry has access to full database (excluding personal and sensitive information) through a set of dedicated, automatically produced reports. In addition, Ministry staff can access the database using ad-hoc defined statistical queries (this requires that relevant technical expertise is available, either in the Ministry itself or in one of its subordinated institutions).
- School founders have access to full information about their schools (excluding personal and sensitive information regarding students). They can use this information for their monitoring and management functions.
- Schools have access to full information about their schools (including personal and sensitive information of teachers and students).
- Public access to statistical data is legally guaranteed to all interested partners (excluding personal and sensitive information). Many reports are available upon request, with easy to set parameters determining the scope of the reports (geographical scope, types of education institution, school founder, and similar). Often, various types of “business intelligence” web portals are available for all interested persons and institutions.
- The system is based on several registries (datasets), with additional procedures ensuring the registry data are correct. The three main registries are registries of education institutions, of teachers, and of students.
- Registries typically include *identification data* and *substantive data*. Identification data are used to identify of objects in the database (schools, teachers, students); they change very rarely. Substantive data include information about the objects (name of the school director, age and qualification of teachers, grade attended by students); they change regularly.

Different entry and modification procedures should apply to identification and substantive data.

- The system performs a defined procedure at the end of the school year (typically, in the end of August), consisting of transferring all students to a higher grade, continuation of classes in the higher grade. Individual deviations from this rule (student changing the school or the class) are entered manually.

### **3. Proposed structure of legislation of education statistics**

It is proposed that the new legal basis of education statistics should include the following three legal acts. The scope of regulation of each of these is discussed separately below. Of course, the proposed names of legal acts are just initial suggestions.

1. Decree of Cabinet of Ministers of Ukraine on obligatory education statistics (Постанова Кабінету Міністрів України Про обов'язкову звітність про освіту).
2. Decree of Cabinet of Ministers of Ukraine on the AIKOM database (Постанова Кабінету Міністрів України Про Положення про AIKOM).
3. Joint Order of Minister of Education and Sciences of Ukraine and of State Statistical Service of Ukraine on detailed set of data items collected in AIKOM (Наказ Міністра освіти і науки України та Державної служби статистики України Про визначення детального обсягу даних, зібраних в AIKOM).

#### *Decree of Cabinet of Ministers of Ukraine on obligatory education statistics*

The decree should regulate:

- The purpose and allowed use of data collected in AIKOM system.
- List of institutions obliged to submit statistical data to AIKOM. The list should include preschools, all education institutions providing secondary education, and extra-curricular education (заклади позашкільної освіти).
- Responsibilities for entering, verifying, and correcting the data.
- The list of the registries maintained in the system. If the name registry (реєстр) cannot be used for legal reasons, these may be called datasets (набір даних).
- Overall scope of identification data (data items which identify the record) and substantive data (data items which provide necessary information about the record) in each registry.
- The obligatory submission of statistical data by schools.
- The obligatory verification of data submitted
- The obligatory use of AIKOM system, or of approved client systems (which can export the data into AIKOM), for collection of statistical data in education (an obligation on schools and school founders).

#### *Decree of Cabinet of Ministers of Ukraine on the AIKOM database*

The decree should regulate:

- The relationship between AIKOM and the Unique Education Database EDEBO, including the rules and procedures of sharing data between these two systems.

- Main modules and functions of AIKOM system,
- The role of Institute of Education Analytics in maintenance and development of AIKOM system.
- The rules of access to the database for different groups of users in the Ministry, in regional education departments, of school founders and of schools themselves.
- The obligations of transparency and public access to some data collected in AIKOM.
- The procedure for obtaining login data.
- Legal responsibility for entering correct data.
- Functionality of entering, verifying, and correction of data.
- Functionality of automated data verification (internal verification).

*Joint Order of Minister of Education and Sciences of Ukraine and of State Statistical Service of Ukraine on detailed set of data items collected in AIKOM*

The order should regulate:

- Detailed list of data items collected for every registry in the system.
- The schedule of data entry by the schools.
- The schedule of data verification by school owners.
- Detailed list of data exported from AIKOM to databases of SSSU.
- The schedule of data export from AIKOM to SSSU.
- Detailed list of data items shared between AIKOM the Unique Education Database EDEBO, as well as the relevant schedule.

The order should also include the following instructions:

- Instructions to schools regarding data entry.
- Instructions to school founders regarding data verification.
- Instructions to system users regarding access to data.
- Instruction to general users regarding available public reports from the system.

#### **4. Next steps**

The Ministry of Education and Sciences of Ukraine hopes that new AIKOM can enter operation in September 2021. Although due to present delays this is difficult to achieved (as discussed in Short Note 120), this is still feasible. In order to fully exploit the opportunities afforded by new AIKOM and in order to steer development of new AIKOM appropriately, the preparation of the necessary legal changes should be undertaken immediately.

The following are the main necessary steps in this direction:

1. Identification of a person or of a Working Group responsible for planning and managing the legal process.
2. Discussions and reaching an agreement with State Statistical Service of Ukraine regarding the concept of new legal basis of education statistics.
3. Discussions and reaching an agreement with the Ministry of Justice regarding the planned legal changes of education statistics.

4. Discussions and reaching an agreement with the Ministry of Digitalization regarding the planned digitalization of all education statistics.
5. Discussion with the developer of new AIKOM regarding the registries in the system and the list of required data items (as discussed in Short Note 120).
6. Review of all Decrees governing different statistical forms in education, which will need to be discontinued (preliminary list is proposed in Annex B). This may include also statistical forms collected by other ministries as well (for example, sport and culture).
7. Decision whether the legal framework proposed in section 3 based on three legal documents is appropriate or should be adjusted (still covering all issues listed in section 3).
8. Preparation of the legal documents according to the adopted legal framework and their submission to the Council of Ministers of Ukraine. The legal documents should foresee the option of delayed implementation due to possible delay of development of AIKOM.

Warsaw, February 20, 2021

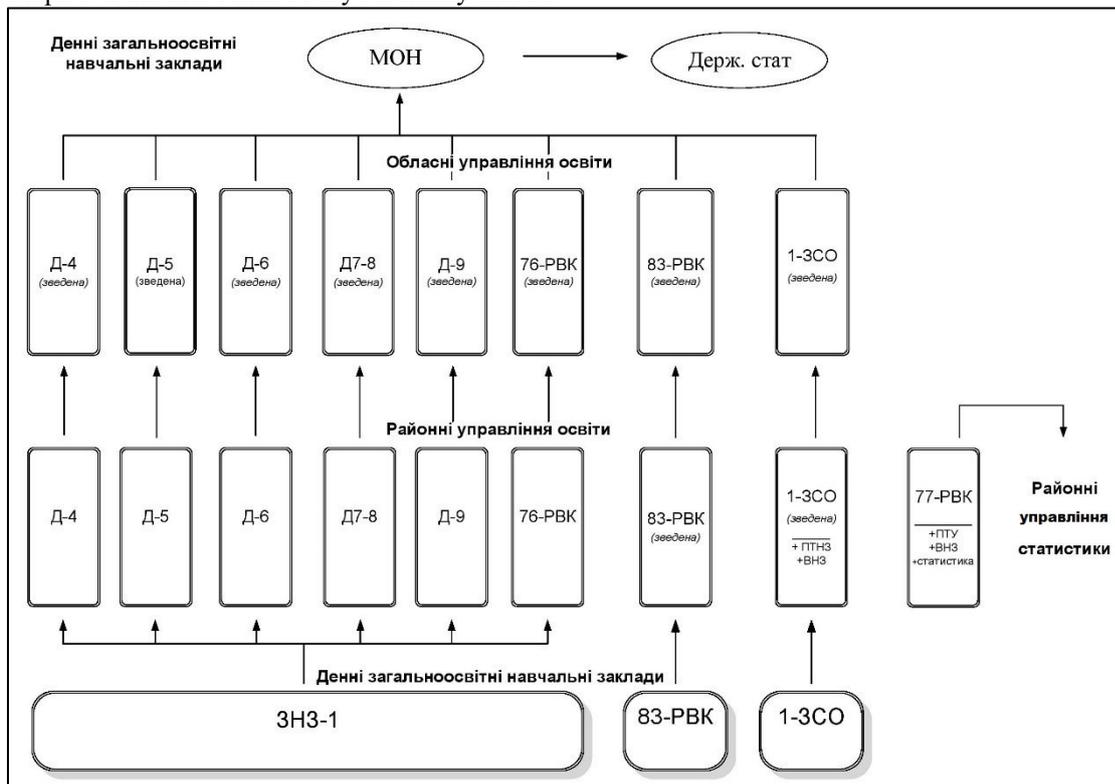
### Annex A. Graphs displaying the reporting and aggregation of statistical forms

The following graphs display the reporting and aggregation of statistical forms in education:

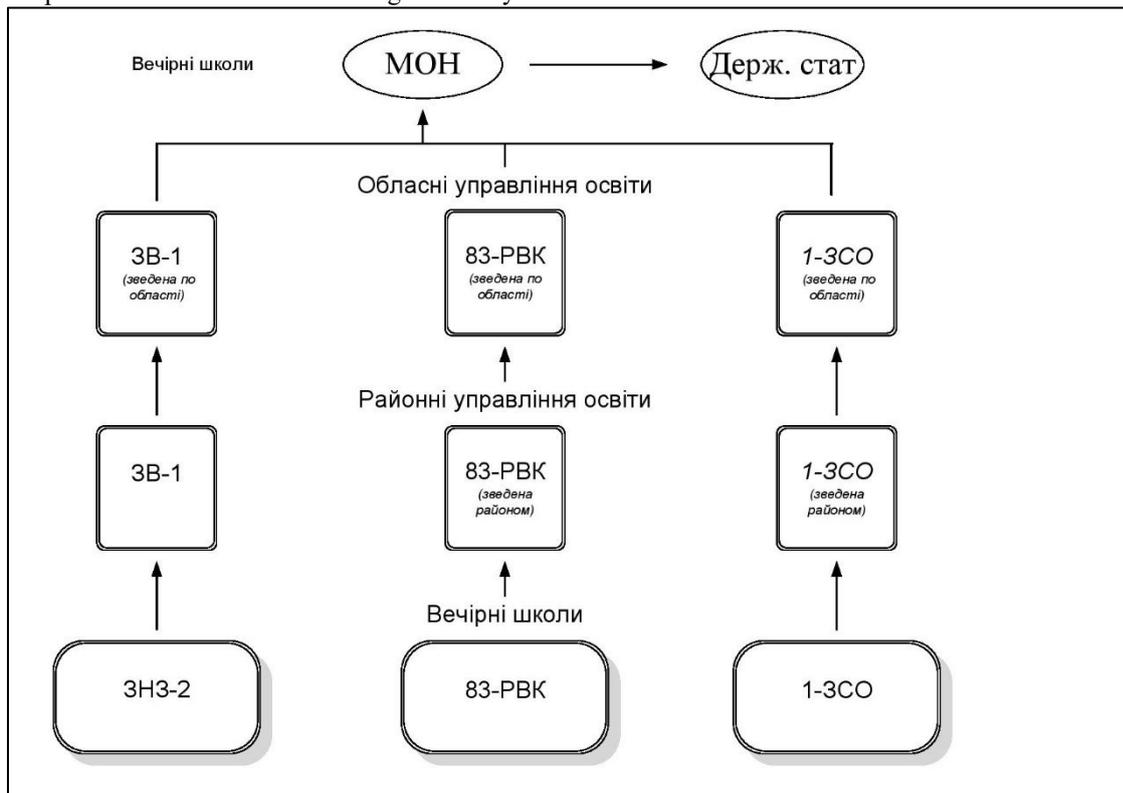
1. Statistical reports of day secondary schools.
2. Statistical forms of evening secondary schools.
3. Statistical forms of boarding schools

We do not show the graph for preschools, as they only submit statistical form 85-k, which is aggregated at higher levels. In the graphs below, rayon education offices should be rephrased as education offices of territorial gromadas.

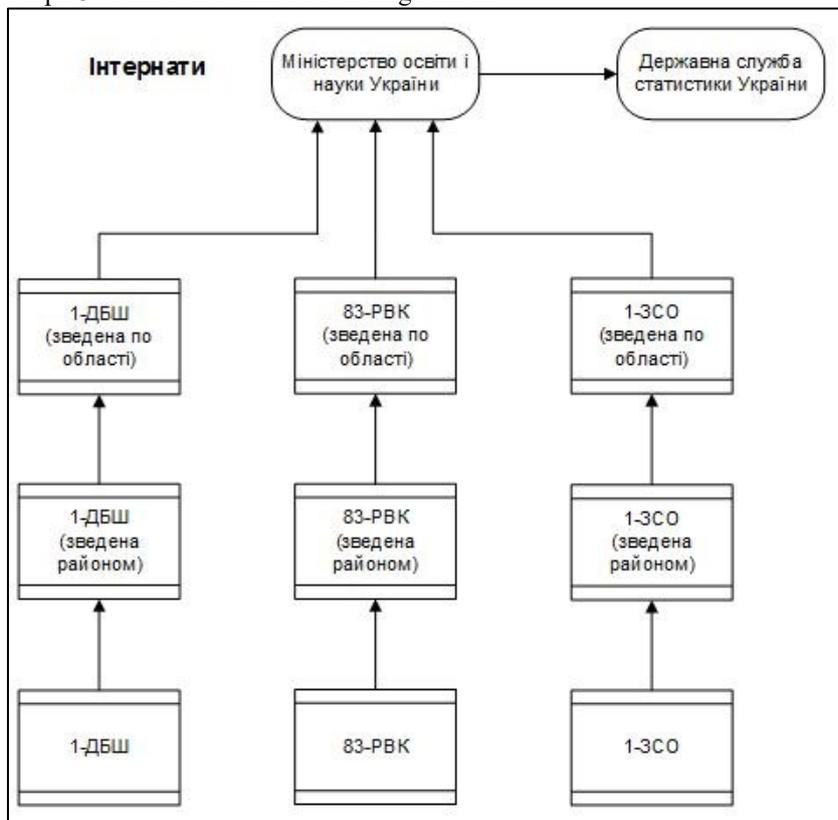
Graph 1. Statistical forms of day secondary schools



Graph 2. Statistical forms of evening secondary schools.



Graph 3. Statistical forms of boarding schools.



## **Annex B. List of legal acts cited**

Наказ МОН від 12.02.2007 № 119 Про затвердження форми звітності N 1-ЗСО "Звіт про продовження навчання для здобуття повної загальної середньої освіти випускниками 9-х класів загальноосвітніх навчальних закладів" та Інструкції щодо її заповнення

Наказ МОН від 25.11.2009 № 1064 Про затвердження форм звітності з питань діяльності дитячих будинків і загальноосвітніх (спеціальних) шкіл-інтернатів для дітей-сиріт та дітей, позбавлених батьківського піклування, та інструкцій щодо їх заповнення

Наказ МОН від 02.07.2012 № 766 Про затвердження форм звітності з питань загальної середньої освіти та інструкцій щодо їх заповнення

Наказ МОН від 27.08.2018 № 936 Про затвердження форм звітності з питань діяльності денних загальноосвітніх навчальних закладів та інструкцій щодо їх заповнення

Наказ МОН від 27.08.2018 № 937 Про затвердження форм звітності щодо чисельності та складу педагогічних працівників закладів загальної середньої освіти та інструкції щодо її заповнення

Наказ МОН від 03.10.2018 № 1062 Про затвердження зведених таблиць з питань загальної середньої освіти

Наказ ДССУ від 16.07.2018 № 150 Про затвердження форми державного статистичного статистичного спостереження № 85-к (річна) "Звіт про діяльність закладу дошкільної освіти"

Наказ ДССУ від 23.07.2020 № 226 Про визнання таким, що втратив чинність, наказу Держстату від 16 липня 2018 року № 150 Про затвердження форми державного статистичного статистичного спостереження № 85-к (річна) "Звіт про діяльність закладу дошкільної освіти"

Наказ МОН від 27.08.2018 № 938 Про затвердження форм звітності про кількість дітей шкільного віку та інструкції щодо її заповнення