FORECASTING THE NEEDS OF TEACHING WORFORCE
WORKSHOP REPORT

10th April, 2018
Vilnius, Lithuania

The initial goal of the workshop was to present the progress of the teaching workforce forecasting system by providing the first set of forecasts and to initiate a stakeholder discussion on the challenges related to the field of teaching and forecasting. Below two sets of outcomes are given: a short summary on each of two presentations made and the outputs of the four participant discussion groups.

1. "Shaping the Teacher Demand: Competences, Workload, Professional Development, and Career", the Ministry of Education and Science

Modern societies are facing fast forward changes in the learning environment. To accommodate cultural and linguistic diversity, differences in skills and learning approaches and other needs in education we must foresee future tendencies and use them in a beneficial manner. Modern educational systems must attract the most suitable candidates for teaching, equip teachers-to-be with what they need to know and do, deliver effective training programmes and provide continuous support throughout the teaching work cycle.

There are four main tasks in reshaping and enhancing teaching both as a profession and in a wider educational perspective. Firstly, it is essential to improve the quality of education which is now being reflected by the worsening pupil achievements and decreasing societal trust in formal education. New generation of teachers and a new light on training programmes' prospects is crucial to increase enrolment to ITT centres. Solutions that would tackle ageing teaching workforce and disbalance in teaching subjects are needed to overcome demographics and other related challenges. Furthermore, employment perspectives both for new and experienced teachers have to be reviewed and renewed to tackle low official workloads and salaries currently being payed.

Directions in achieving these tasks have been followed for several years now. A concept of a "good school" has been agreed on back in 2015. Educational community has decided on the school-level and individual-level results that describe a good example school. Another important milestone reached is the teacher training model that has been prepared in 2017. For the first time a model describing unified process of teacher training and continuous professional development was prepared and introduced. Even though the core model elements were approved, implementations steps are still need to be taken. Another two important elements are currently being reviewed - the teacher competence framework and teacher payment scheme.

New elements within the teacher training model can be highlighted. To ensure a professional and personal development of a starting teacher, an official induction period is being introduced. In addition, experienced teachers will have an opportunity to mentor new teachers and get paid for this new official role in a school community. Continuous professional development starting from the student selection during admission to ITT phase up until after retirement is clearly defined. Guidelines on student motivational interviews that draw on personal qualities concerning teaching profession, values and academic potential are stated in the model. In addition, it is agreed that continuous analyses on education, changes in

curriculum and teacher need are needed. More clear pathways towards acquiring qualification in teaching are defined by consecutive and concurrent study programmes.

Several European Social Fund supported projects are used to implement recent changes and reforms. A pilot on induction period and implementation, activity evaluation, additional competences and qualifications for employed teachers are being run by Education Development Centre. A project on opportunities for teachers willing to pursue higher education is foreseen. Other initiatives: Structural Reform Support Service (SRSS) projects on forecasting the needs for teaching workforce and teacher training centre network creation; European Schoolnet: Initial Teacher Training Lab; Teacher Selection Project; Erasmus and Twinning projects.

2. "Forecasting the Needs of Teaching Workforce", the Research and Higher Education Monitoring and Analysis Centre (MOSTA)

The main goal of the forecasting system is to provide recommendations on the student admission to initial teacher training (ITT) programmes. Recommendations should rely on the short-term (1 year) and mid-term (4 year) forecasts of the new teacher demand needed to balance the workforce. Forecasts are being estimated by a supply and demand model, which takes into account elements such as: replacement demand (due to teacher retirement, death or turnover), expansion demand (due to changes in pupil number), graduate supply, outside supply (general labour market) and other. All data inputs used rely on the data from educational registers on pupils, teachers, students, diplomas and qualifications from the Centre of Information Technologies in Education.

The model scope is pre-school, general and vocational education teachers and pedagogical staff members. A final list of 23 specializations that incorporates level of education, post type and teaching subject is provided in the slide pack. In total, 83 percent (as for 2017) of teachers and pedagogical staff are represented in the model. Several post types and/ or teaching subjects are outside the model scope due to its specifics. Modelling stage takes into account different levels of data (individual – class - school type – municipality) but can differ by modelling element (e.g. student supply also takes into account study programme cycle, type and other). This approach tackles the issue of different circumstances per level, for example differences in contact hours being taught in rural or city-based schools, class mergers, drop-outs, etc.

The preliminary forecasts rely on some core model elements such as pupil forecast used to calculate expansion demand. According to team's calculations, number of classes for grades 0-12 will follow a positive trend and increase by 2021. The main driver of this change is that the number of residents aged 6–11 which has been gradually falling in 2010–2014, has started to increase since 2015. In addition, the number of children aged 0–5 is forecasted to be increasing up until 2021. This provides a solid ground for an expansion demand, which is needed to accommodate changes in the increasing number of pupils.

Another important element of teacher demand is the substitution needed due to teachers retiring from the profession. It is calculated that only each fifth teacher retire during their first year of retirement age. This raises a concern that high teacher concentration in the oldest age groups will shortly lead to a high number of retirees that will need to be replaced by younger teachers. The model allows us to calculate retirement-probability per each age group and apply it to current teaching workforce to estimate forecasts of possible retirees up to 4 years from now.

ITT graduates are the main source of teacher supply. Some of the students start working at schools during their studies and are not considered as a future supply to schools in this model since they are already active in the field. The model looks at the number of current students in the system that are pursuing their degree in teaching. However, it is important to take into account that not all students graduate (acquire a qualification in teaching or related field) and not all graduates get employed at schools (due to various reasons that are not being examined in the model). By having historical data on student graduation and employment at schools, we estimate a coefficient per specialisation that denotes the share of students that have successfully graduated and started working as teachers after their graduation (within the modelling scope). By multiplying coefficients with the number of students in a respective study programme, we estimate the forecast on students that will most likely start working in schools by 2022. It is assumed that there will be no new admissions so that only students that are studying at the time of the analysis are considered.

Putting all these and additional modelling elements together, we provide an initial new teacher need forecasts for 2018–2021 yearly. It is anticipated that the highest shortages are in specializations of primary teachers (grades 1–4), pre-primary (grade 0) teachers and subject areas of Lithuanian, Mathematics and Foreign languages. More detailed forecasts, main elements and scenarios are provided in the slide pack. Further project team plans are to run the second round of calculations and improve calculations on student supply and some specific specializations.

3. OUTCOMES FROM DISCUSSION GROUPS

GROUP 1: Strategic Human Resource Management in Education

1. Proper induction programs would improve the rate of dropout among young professionals. Young teachers need support from competent mentors, tutors and school managers, they would like to continue their learning by observing peers after entering the profession;
2. The implementation of induction must be carefully organized to be beneficial, we assume that it would be more challenging to apply this in rural areas than in urban ones. Municipalities could play a significant role in supporting induction and making it sustainable and effective;
3. Attractiveness of the teaching profession amongst the younger generation must be cultivated, especially in rural areas, by not merely providing additional financial support, but also other means of support from local authorities. Clear career pathways could help making the teaching profession more attractive for young people;
4. Regarding the high average age of teachers, alternative career pathways or possibilities to quit the profession without incurring losses should be offered for the older generation of teachers, to ensure that only the motivated ones stay in the field. Experienced teachers might become a teacher educator and/ or a provider of teacher development courses after reaching a certain level of competence. Pension systems should also be reconsidered to decrease the very high rate of teachers remaining in the profession after pension age (even the possibility for teachers to retire earlier must be ensured);
5. Improvement of local governance for sustaining staff turnover must also be ensured, for example, it must be beneficial in rural areas for the municipality rather than a school to employ a teacher, so that the teacher works in two or more schools and all children benefit from good teaching, instead of a teacher staying away from schools that might be seen as weak ones;
6. Improvement of principals' leadership skills and managerial competencies must be continuous, so they are able to foster organization as a learning community, open for changes and creativity in dealing with challenges.

GROUP 2: Initial Teacher Training

1. How to attract and retain motivated youth to study ITT programmes?
   1.1. One of the most important elements in attracting youth to choose teacher training programme is communication. Societal and parental perspective, experience brought back from schools are very important and hard to change. An idea of reforming teaching profession into a prestigious one by 2020 is promising but without further communication will not have much of an effect.
   1.2. Parental and children view on training programmes and teaching profession as such are also related to financing opportunities. A prestigious profession must have solid ground to define the prestige.
   1.3. Higher funding to ITT programmes and its targeted use would contribute to reforming profession to.
   1.4. Message on the flexible pathways towards teaching profession must be spread among the society.
2. What is the ideal "length" (in ECTS credits) of an ITT programme - and how might ITT programmes be configured to meet future needs (e.g. concurrent; consecutive; other alternatives?)
   2.1. There should be a variety of different ITT programme forms. No specific guidelines for the number of credits can be given. Current programmes differ in its length, for example, programmes in colleges are 180 ECTS long, universities – 240 ECTS.
   2.2. Existing practices in forms and lengths of current ITT programmes must retain. Variety and flexibility define the attractiveness of a profession.
   2.3. An example from Ireland – due to worsening PISA results in literacy an extra year in ITT programmes were added to focus more on teacher literacy and digital literacy.
   2.4. Content of the programme is more crucial than the exact number of ECTS provided.
3. Would ITT Centres of Excellence be a good idea in Lithuania, and if so, how might they be configured?
   3.1. First of all, clear functions, funding, responsibilities and management framework for ITT centre network should be set. These all elements comprise a system that cannot be created and implemented within a month or two. In Ireland, it took six years to reform and create ITT centre network of six institutions. To set up one centre approx. 10 million Eur was spent.
   3.2. Decision making must be slowed down. When changes are fast it become a mission impossible to follow the pace of each stakeholder involved.
   3.3. Three milestones in ITT centre creation:
      3.3.1. Time
      3.3.2. Equal respect and opportunities to all network partners
      3.3.3. Incentives and support
   3.4. How colleges can partnership with ITT centres? Another example from Ireland – each college staff member was ensured with a job placement in new centre network. There were six years given to improve skills and competences. Approx. 90 percent of previous college workers successfully acquired an academic doctoral degree within the six years given.

GROUP 3: Organising the Work of a Teacher

Messages for teachers:
1. Teachers need to understand themselves that there is a need for a necessary change. Some of these changes make teachers vulnerable but there is a growing understanding that there is no way to stay the way we are in the professions. The more teachers are aware of the need of change, the sooner and better the profession innovates;
2. Teachers working in rural and city areas have different functions that are equally important. Even though responsibilities might be different, everyone's work is important and should be respected. Teachers are sometimes critical about their own colleagues that work in a different environment;
3. Do not compete – cooperate. There is no competition – only an aspiration to seek common goals.

Messages for policy makers:
1. There is a need for a systematic review on support and competence development opportunities/ means provided for teachers. This is the most important element and tool to convince teachers that changes are needed;
2. Need for a complex view on problem solving;
3. Teaching profession is creative – the decisions made should not be uniform. Teachers must be creative and we cannot have centralised solutions and introduce a "one way to all";
4. Governmental funding for an alternative or second qualification. Teachers very often have one subject qualification and now it is the right time to look at funding for extra qualifications;
5. More effective programme and curricula content management and development on the national level. Again, centralised management is not the best way, but national level must provide efficient teaching materials;
6. Professional content-related platform which ITT centres would be able to use too. This platform should be professionally managed, be reliable and consistent;
7. Systematic support for teachers on change implementation. Whenever national reforms are implemented, support system for every teacher, every region must be available;
8. Ensure the quality of support/ consultation/ professional development.

Messages for teacher training centres:
1. Foreign partnerships/ investment in staff / qualitative projects are important and provide learning experience;
2. ITT centre partnerships can bring great results. Establishment of 3 ITT centres in Lithuania is a great start of a network and prospective partnership;
3. Shorter ITT programmes for the second/ alternative qualification;
4. There is a new tendency that older (more experienced) and more motivated students start to enrol to ITT programmes. This is a great chance to start a new teacher generation;
5. There is a need for change in early childhood education (kindergartens and preschools) to lower pupil-teacher rate down to 12:1.

GROUP 4: From Forecasting to a Successful Planning

- Data from regional unemployment agencies could enrich the model or planning system by providing detailed information on qualified teachers looking for a job at school;
- Education providers offer 90 ECTS requalification programmes, however there are shorter 40 ECTS programmes dedicated for specific subject teachers to gain new knowledge in the area. Requalification data, if possible, should be taken into consideration while planning teaching workforce needs;
- If teachers come to schools from the general labour market due to high need in specific subjects, the government should invest more into professional teacher training to attract motivated adults to acquire qualification in teaching;
- Data on teacher supply coming to schools directly from initial teacher training centres should be provided more into details: how many students are there? How many students are employed at schools already during their studies? How many students will most likely start working at school after graduation? This information would provide more solid ground to admission planning;
- Long-term vision is essential in forming and projecting teaching workforce. Even longer than 4-year forecast could be considered in the future. Population scenarios (optimistic/ pessimistic) would be useful to foresee whether increases or decreases in pupil number are short or long term. This is essential in forming policy changes that might be needed shortly but have a longer effect;
- Forecasting and planning system participants:
  - Ministry of Education and Science units working with changes in educational curriculum;
  - Municipalities may provide essential information on its educational plans for the future;
  - School principals that foresee their admission capacity.
- Nested approach is needed to solve a complex chain of a pupil – class - school – location – municipality;
- In reality, most of the schools do not merge – they become a formal unit of each other.

ANNEX 1

PROGRAMME

FORECASTING THE NEEDS OF TEACHING WORKFORCE: WORKSHOP

10ᵀᴴ APRIL, 2018 VILNIUS
RATONDA CENTRUM HOTELS (A. ROTUNDO G. 1)

08:30 – 09:00	Registration	
09:00 – 10:00	Presentations	*"Shaping the Teacher Demand: Competences, Workload, Professional Development, and Career"* *Vilma Bačkiūtė, the Ministry of Education and Science* *"Forecasting the Needs of Teaching Workforce"* *Research and Higher Education Monitoring and Analysis Centre (MOSTA)*
10:15 – 11:30	Discussions in groups	1. *"Strategic Human Resource Management in Education"* 2. *"Initial Teacher Training"* 3. *"Organising the Work of a Teacher"* 4. *"From Forecasting the Teacher Need to Successful Planning"*
11:30 – 12:00	Coffee break	
12:00 – 13:00	Findings from roundtable discussions	

ANNEX 2

Group discussion topics

The discussion groups will happen simultaneously, each on a different topic. The working language of groups No. 1 and 2 is English, groups No. 3 and 4 - Lithuanian.

1. **STRATEGIC HUMAN RESOURCE MANAGEMENT IN EDUCATION**
   Facilitators: Patricia Perez-Gomez, Luka Juros (European Commission)
   - How to ensure the integration of a recent ITT graduate - starting teacher, in school?
   - How to ensure a sustainable staff turnover age-wise?
   - How to maintain a stable community and skills-match when changes in demographics occur?

2. **INITIAL TEACHER TRAINING**
   Facilitator: Aine Hyland (Professor Emeritus in Education, University College of Cork)
   - How to attract and retain motivated youth to study ITT programmes?
   - What is the ideal "length" (in ECTS credits) of an ITT programme - and how might ITT programmes be configured to meet future needs (e.g. concurrent; consecutive; other alternatives?)
   - Would ITT Centres of Excellence be a good idea in Lithuania, and if so, how might they be configured?

3. **ORGANISING THE WORK OF A TEACHER**
   Facilitator: Vilma Bačkiūtė (the Ministry of Education and Science of the Republic of Lithuania)
   - Continuous professional development and career flexibility
   - Shaping the teaching workload
   - The impact of changes in the primary-school starting age on the teacher demand

4. **FROM FORECASTING THE TEACHER NEED TO SUCCESSFUL PLANNING**
   Facilitators: Beatričė Leiputė, Giedrius Padvilikis (Research and Higher Education Monitoring and Analysis Centre, MOSTA)
   - What are the stakeholders that should be involved during different phases of forecasting and planning the need of teachers?
   - How to engage different stakeholders? When and by whom the critical points in teacher need should be noticed?
   - Balancing the forecasting results and planning practices