

## **Reforming Georgian Education: Recommendations for using Classroom Assessment to improve Student Outcomes**

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Picture, if you will, a secondary school classroom in which the teacher stands in the front of the room lecturing. The students, seated at desks in neat parallel rows with their books open in front of them, receive the exact same instruction. Day after day this form of instruction is repeated. During the instruction the teacher makes little to no effort to assess a student's learning or to modify the student's experience to ensure mastery of the content being covered. At the end of a unit, students sit at their desks and complete a written exam. The results of the exam determine the students' scores.

This scenario was not taken from a 20th century novel. As in many of the post-Soviet countries, the type of instruction described above is the norm in many grade 7-12 classrooms in the country of Georgia. However, in 2014 Georgia's Ministry of Education and Science (MES) initiated the design of a 5-year project that would improve student learning outcomes by training teachers to use 21<sup>st</sup> century teaching methods, including the use of classroom assessment techniques (Millennium Challenge Account – Georgia, 2014). Technical support and activities recommended in the design are intended to supplement and enhance the efforts of the Ministry of Education and Science and associated agencies, and to build the internal capacity of the agencies. The targeted beneficiaries of the effort include all

of the nation's 18,000 grade 7-12 teachers of biology, chemistry, physics, geography, mathematics, English, and ICT [referred to as STEM teachers in Georgia]; 2,100 school principals; and 2,100 school-based professional development facilitators; as well as staff and trainers from agencies of the Ministry of Education and Science.

This paper focuses on describing the classroom assessment components of a national project design effort and the reasons classroom assessment is considered to be central to improving student outcomes in Georgia. In doing so, the paper establishes a context for this discussion by presenting a brief description of the country and current education reform efforts. This is followed by an introduction to classroom assessment, the role of the classroom assessment expert in implementing the project, and the tasks with which he was charged. It concludes with the major recommendations that result from this work.

## **Background**

Georgia is a post-Soviet nation that is situated at the juncture of Western Asia and Eastern Europe between the Black Sea and the Caspian Sea. It borders Russia to the north, Azerbaijan to the east, Armenia and Turkey to the south, and the Black Sea to the west. Its size in area is approximately 69,700 square kilometers (26,911 square miles), making it slightly smaller than the state of South Carolina in the USA (Encyclopedia of the Nations, 2014) and the country of Ireland (Encyclopedia of Earth, 2014). Since the early 1990s Georgia has experienced a number of Russian incursion resulting in the occupation of large portions of two regions: Abkhazia and South Ossetia. National census data is inconsistent, but estimates the total population of Georgia being between 4.5 and 5 million (Index Mundi, 2014; Infoplease, 2014).

Since the 2003 Rose Revolution, the country has experienced sustained economic growth and was recently ranked high in the World Bank's indicators for "Doing Business", moving from 112th place in 2005 to 8th place in 2014 (International Bank for Reconstruction/The World Bank, 2013). This improved ranking reflects sweeping reforms that have been implemented to: (a) strengthen public finances; (d) improve the business environment; and (c) enhance social protection and social services. The results can be seen in appreciable improvements in economic and social institutions, and a sound climate for foreign direct investment and economic growth.

## **Education Reform in Georgia**

Together with political, economic, and social reforms, the Government of Georgia passed the Law on General Education in 2004. Since then, Georgia has made substantial progress at both general education (grades 1-12) and tertiary levels. Examples of reforms in general education include: restructuring the governance and financing of schools; developing and introducing a new national curriculum; introducing a standardized, reliable, and publicly credible national university entrance examinations; setting new teacher and school principal professional standards; initiating a teacher certification and recertification program (which is currently on hold); and adopting continuous professional development programs to upgrade teachers' competencies to face the evolving challenges of the modern classroom (Millennium Challenge Account – Georgia, 2014).

The above reforms, however, have produced only modest or localized increases in student learning outcomes. For example, G-PriEd, a USAID funded project, has conducted teacher professional development that appears to be impacting student outcomes. However, the project's work is limited to a small number (n=122) of elementary schools (N. Parks, personal communication, February 27, 2015).

Generally, Georgia's international assessments of student learning indicate low education quality outcomes in general education, as evidenced in the Trends in International Mathematics and Science Study (2011). The continued poor academic performance of graduates is a serious detriment to Georgia's potential for economic growth. In particular, the Government of Georgia identified a lack of science, technology, engineering, and mathematics (STEM) professionals as a critical bottleneck to economic growth (Millennium Challenge Account – Georgia, 2014). This is reflected in Georgia's rank of 69 out of 142 countries on the availability of scientists and engineers in the 2014/2015 Global Competitiveness Report by the World Economic Forum (2014). Therefore, the government is aggressively implementing measures to significantly improve the quality of both education and student learning outcomes in order to create an educated, skilled, and internationally competitive workforce.

With the focus of the paper and the context of education in Georgia established, the next section presents a discussion of classroom assessment, specifically formative and summative assessment. It differentiates between these strategies and their respective applications and benefits. At several points these strategies are compared to or contrasted with instructional and assessment practices in Georgian secondary classrooms.

## **Classroom Assessment**

For many years, instruction and assessment were considered to be separate and unrelated activities, each taking place at a different time and for a different purpose (Graue, 1993). This is still the practice in most of the secondary classrooms in Georgia. Modern classroom assessment methods however, have changed that paradigm in educationally more developed countries. Today, teacher developed classroom assessments are considered an integral part of the instruction process (Popham, 2008) that produce benefits for both teachers and students (Ormrod, 2008).

Current perspectives on classroom assessment generally consider that it consists of two distinct methodologies – formative and summative (Chappuis, et al., 2012). These methodologies, which are appropriate for use by teachers in all subjects and grade levels, are used in determining a student's state of learning at various points in the instructional process and provide useful data to teachers, students, and parents (Ormrod, 2008; Pinchok & Brandt, 2009). The role of classroom assessment differs from that of other forms of assessment (i.e., national and international standardized exams). Its function is to create a closer connection between assessment and instruction (Shepard, 2000a) and, in contrast to its counterparts, classroom assessment is not appropriate for use in evaluating teacher, school, or system performance (Shepard 2000b). In Georgia however, possibly due to a lack of understanding of the nature and purpose of classroom assessments, there is a tendency to want to link classroom assessment to the evaluation of teachers and schools.

Research has consistently demonstrated the importance of classroom assessment in improving teaching and learning (Black & Wiliam, 1998; Fuchs & Fuchs, 1986; Fuchs, Fuchs, Karns, Hamlett, Katzaroff, & Dutka, 1997; Kingston & Nash, 2009; Steadman, 1998; Stiggins & Chappuis, 2005). Factors that may contribute to these positive results are associated with the particular benefits classroom assessment provides. Through classroom assessment, students receive feedback on their knowledge, and become more motivated for self-regulation and further study. The experience itself may have instructional effects: since classroom assessment can serve as a review of content studied, it facilitates deeper cognitive processing. The benefits teachers derive from such assessment include the collection of data that can be used to diagnose student needs, guide instruction, motivate changes in methods of instruction, and determine students' performance for grading purposes (Ormrod, 2008).

As a result of their research on classroom assessment, the National Research Council (2001) identified six characteristics of effectiveness. Based on this research, the characteristics and their roles in the learning process can be stated as follows:

1. Regular and high-quality classroom assessment will have a positive effect on student learning.
2. Information from classroom assessment must be used by teachers and students to inform the learning experience.
3. Students are key to achieving positive outcomes from classroom assessment, by
  - understanding learning outcomes and criteria for success,
  - actively monitoring their own performance, and
  - sharing responsibility with teachers for their learning performance.
4. Teachers need time to develop assessments and discuss findings with other teachers.
5. School leaders and systems need to make classroom assessment a priority and provide support.
6. Goals for classroom assessment must be aligned with outside standards.

### **Formative Assessment**

Although formative and summative assessments contribute to both improved teaching and learning, they are very different methodologies. Formative assessment is an on-going and intimate process between a student and teacher (Black & Wiliam, 2001; Pinchok & Brandt, 2009). A teacher incorporates formative assessment methods into his or her regular classroom activities and uses them continually to monitor each learner's progress toward the desired learning outcomes. As a result of nearly continuous interactions, the teacher makes adjustments to learning experiences. Changes may be on a continuum from subtle ones, such as asking a thought provoking question, to something as significant as adding a week to a unit of study, or assigning a new project to a group of students. The goal of these adjustments is to provide appropriate instructional experiences designed to address specific identified learning deficits in order to ensure optimal learning outcomes for each student (Pinchok & Brandt, 2009; Wagner, 2011).

The phrase “assessment *for* learning” is used to describe formative assessment (Chappuis, Stiggins, Chappuis, & Arter, 2012; Waugh & Gronlund, 2012). As the term implies, the assessments are not for use in rating or ranking students, but rather for identifying learning needs. As such, these activities are usually ungraded,

however, work products gathered as part of the formative assessment process may be included in student portfolios. Work products (e.g., a report, cognitive map, poem, mathematical proof, worksheet) represent the student's knowledge or skill at a given point in time. A series of work products gathered over time can clearly illustrate a student's progress.

As stated above, the goal of formative assessment is to provide teachers with data for making instructional decisions. It uses a methodology similar to response to intervention (RTI) theory – gather data to identify a need, determine and implement an instructional response, and review progress (Griffiths, VanDerHayden, Parson, & Burns, 2006) but at a greatly accelerated rate. The process is ongoing and minute-by-minute (Pinchok & Brandt, 2009). William and Thompson (2007) described the process as a teacher repeatedly answering three related questions along the lines of:

1. What do my students need to know or be able to do?
2. How close are my students to meeting this goal?
3. What do I need to do to help students close the knowledge and skill gaps I have identified?

### **Summative Assessment**

Summative assessment is described as the 'assessment of learning' (Chappuis, Stiggins, Chappuis, & Arter, 2012; Waugh & Gronlund, 2012). It is used to evaluate students' knowledge or skills related to specific topics. Unlike formative assessments, summative assessments tend to be formal and easily observable events. Typically, summative assessments take the form of oral, written, or performance examinations (i.e., tests). In most classrooms, summative assessments are administered to an entire class as a capstone event associated with the end of a unit, course, semester, or year of instruction (Ormrod, 2008; Waugh & Gronlund, 2012). In these classrooms, tests are typically administered as part of the grading process, and each student's performance on a test, or collection of tests, can be a significant factor in determining his or her grade for an entire course. The use of summative classroom assessments, consistent with the practices described herein, is common in Georgia.

Although they are most often administered at the end of a unit of study, summative assessments are sometimes used to inform the instructional process (Bell & Cowie, 2000). Examples of how a summative assessment might be used for formative purposes include data being used by a school systems to inform decisions regarding changes in curriculum, or by a teacher to help reform his or her teaching practices,

such as the emphasis placed on various parts of the curriculum in subsequent offerings of a course.

The creation of valid summative classroom assessments is a significant challenge for teachers. A common practice among teachers in Georgia, and many other parts of the world, is to produce tests as students near the end of an instructional unit. This practice ensures that teachers produce tests on the topics covered, but fails to ensure the topics in the curriculum were covered with the depth and breadth that was intended. A more reliable method is to prepare the assessment based on the outcomes specified in the curriculum (Dick, Carey, & Carey, 2001; Teaching Today, 2005), usually before teaching a unit, and then teach toward the outcomes.

Another challenge for teachers during test construction is the creation of items that assess the higher-order thinking skills contained in the learning outcomes in modern curricula (Vernon & Szymanski, 2013). Instead, teachers tend to produce assessments that are easy to score. Items of this type usually assess low level cognitive processes, such as recognition and recall (Paul, 1990).

Appropriate use of summative assessment/test scores also presents a challenge for some teachers everywhere, not just in Georgia. Determining the appropriate weighting of a test score can be difficult. Inappropriate weighting can result in a failure to represent a student's true level of learning and content competencies. At the national level in Georgia, the concepts of formative and summative classroom assessments are known. For example, during the academic year 2005-2006 the National Curriculum Department, part of Georgia's Ministry of Education and Science, released a curriculum that incorporated recommendations for both formative and summative classroom assessment. Furthermore, the current National Curriculum Plan for Georgia (2011-2016) further elaborates the roles of classroom assessment and the responsibilities of teachers.

In spite of the policies and documents produced at the national level, very little progress has been made integrating assessment strategies and techniques into classroom teaching practices in Georgia. At present, the majority of STEM teachers rely solely on summative assessments. The lack of progress integrating formative assessment methods into grade 7-12 STEM classrooms may be attributed, at least in part, to the failure to provide appropriate professional development for teachers. In addition, historically, there has been little monitoring of individual teaching practices, and few incentives or support systems have been put in place to motivate teachers to change their teaching practices (Kobakhidze, 2010).

Recognition of these issues by Georgia's education leaders has resulted in classroom assessment being a major component of the Millennium Challenge Corporation – Georgia Compact II. The next section of this paper introduces the Compact, specifically the role of classroom assessment in the Compact, and discusses the activities undertaken by the design team's Classroom Assessment Expert.

### **Millennium Challenge Corporation: Georgia Compact II**

In early 2014, the Government of Georgia, acting through the Millennium Challenge Account – Georgia, initiated the design of a 5-year project entitled, Georgia II: Improving General Education Quality. The 5-year project was scheduled to begin in early 2015. The two main areas of focus for this project are: (1) professional development of educators for excellence, and (2) classroom-based student assessment. As part of this initiative, project design recommendations for the 5-year implementation plan were co-constructed with various Ministry of Education and Science personnel, associated centers, and other stakeholders. A Germany-based consulting group, GOPA (Gesellschaft für Organisation, Planung und Ausbildung mbH), took the lead in designing the recommendations for the implementation of professional development for 7-12 grade STEM educators (as stated above, the list of subject areas was modified to conform to local needs), school principals, and school-based professional development facilitators, as well as staff and trainers from key agencies of the MES.

### **Project Description**

An eight-person team, consisting of three international consultants and five Georgian consultants was assembled by GOPA in Tbilisi, Georgia. The international consultants included the Team Leader, who also served as the Classroom Assessment Specialist, a Professional Development Specialist, and an ICT / General Education Specialist. Local Georgian consultants included a Georgia Education Specialist, a Private Sector Engagement Specialist, a Costing Specialist, a Local Program Manager, and an Office Manager/Translator.

This team produced four key deliverables between February 14 and November 25, 2014. The deliverables included 1) an Inception Report, 2) a Sector Policy and Practice Report, 3) a Project Design Recommendations document, and 4) the Terms of Reference for work that would need to be outsourced to support project

implementation. The international consultants and several of the local consultants worked on each of these deliverables. Two sub-deliverables, 1) a Private Sector Engagement Plan and 2) a Project Costing Plan, were created during the final few months of the project by local consultants specializing in these areas, and with input from the international consultants.

The consultants worked in a collaborative and consultative manner with local stakeholders to ensure content accuracy, relevance of approaches, and local buy-in on the recommendation being proposed. During the development of deliverables, team members often contributed to the work of others, however, each had the specific roles and responsibilities.

### **Classroom Assessment Expert Responsibilities**

The entire design project consisted of seventeen discrete tasks (Table 1). Of these, five (tasks 9-13, in bold) focused exclusively on classroom assessment. These tasks were the major responsibility of the classroom assessment expert. Through the completion of these tasks, the classroom assessment expert contributed to the overall design recommendations, work plan, and costing information critical to the development of the Project Design Recommendations and Terms of Reference deliverables.

Table 1: Project Design Recommendation Tasks

|  |  |
|--|--|
| Analysis of Georgian Education Sector Policies, Practices, and Needs |  |
| <i>Task 1</i>  | <i>Analysis of Professional Development and Assessment Policies and Practices</i>  |
| <i>Task 2</i>  | <i>Professional Development and Classroom Assessment Needs Assessment</i>  |
| Design of the Training Educators for Excellence Activity             |  |
| <i>Task 3</i>  | <i>Design of TPDC Policy and Practice Improvement</i> <ul style="list-style-type: none"> <li>• Policy</li> <li>• Methods of Professional Development</li> <li>• Use of Technology</li> </ul> Quality Assurance |
| <i>Task 4</i>  | <i>Design Professional Development Activities for Teachers</i>   |
| <i>Task 5</i>  | <i>Design Professional Development Activities for Principals</i>   |
| <i>Task 6</i>  | <i>Design Professional Development Activities for School-Based Professional Development Facilitators</i>   |
| <i>Task 7</i>  | <i>Design of Professional Development/Capacity-Building Plan for TPDC staff</i>  |

|  |  |
|--|--|
| <i>Task 8</i>                                      | <i>Social and Gender Integration</i>   |
| <b>Design of the Classroom Assessment Activity</b> |  |
| <i>Task 9</i>                                      | <i>Design an Approach to Classroom Assessments</i>   |
| <i>Task 10</i>                                     | <i>Design Framework for Training Current Educators in Classroom Assessments</i>  |
| <i>Task 11</i>                                     | <i>Integrate Classroom Assessment into the Teacher Professional Development Scheme</i>   |
| <i>Task 12</i>                                     | <i>Design an Outline for a Teacher Pre-Service Course in Classroom Assessment</i>  |
| <i>Task 13</i>                                     | <i>Design Technical Assistance for NAEC, TPDC, National Curriculum Department and Other Relevant Staff in Developing and Managing Classroom Assessment</i> |
| Private Sector Engagement                          |  |
| <i>Task 14</i>                                     | <i>Develop Private Sector Engagement and Partnership Plan</i>  |
| Monitoring and Evaluation                          |  |
| <i>Task 15</i>                                     | <i>Develop a Monitoring and Evaluation Framework</i>   |
| Implementation Plan                                |  |
| <i>Task 16</i>                                     | <i>Develop a Work Plan for Implementing the Activities</i>   |
| <i>Task 17</i>                                     | <i>Develop all relevant Terms of Reference/Technical specifications</i>  |

### **Classroom Assessment Expert Activities**

In order to complete the classroom assessment tasks (tasks 9-13 in Table 1) the following activities were undertaken by the classroom assessment expert:

- analyses of current professional development and assessment policies and practices,
- assessment of specific needs related to classroom assessment,
- providing assistance to the design and approach to classroom assessments,
- providing assistance to the design of a framework for training of current educators in classroom assessment,
- preparing a methodology for integrating classroom assessment into the teacher professional development scheme,
- contributing to the development of the five-year implementation plan, and
- contributing to the development of terms of reference/technical specifications.

### **Cross-cutting Issues**

In addition to the two focal points of the project (professional development and classroom assessment), two project themes permeated all aspects of the project work and resulting recommendations. These themes were 1) identifying

opportunities to leverage ICT in support of professional development and project implementation, and 2) ensuring that equity was addressed in all areas of implementation.

ICTs for the purposes of the project were considered to be any form of modern digital technology used for instruction or communication. This included, but was not limited to, computers, tablets, mobile phones, e-mail, blogs, portals, websites, computer-based learning, online learning, online videos, and software tools.

Equity also was interpreted as broadly as possible in this project. Issues included language spoken, ethnicity, ability, age, and gender. However, in the Georgian context several equity issues were readily apparent as requiring attention. Language spoken, for instances, was of particularly high importance since a number of schools in Georgia are referred to as ‘non-Georgian’ schools. In these schools the language of instruction is Azeri, Armenian, or Russian, rather than Georgian. Due to the small number of schools and students in each language group, services for these populations are often sub-standard. For example, many textbooks are only available in Georgian and professional development is offered only in Georgian.

The classroom assessment tasks and associated work were designed and completed for the purpose of developing recommendations that would result in enhanced teacher professional development and improved classroom practices. The ultimate goal was to achieve more effective teaching and learning as demonstrated by improved student outcomes. The following section presents the project design recommendations as they relate to classroom assessment.

### **Project Design Recommendations**

The work of the classroom assessment expert, with support from GOPA’s design team, resulted in nine of classroom assessment recommendations as detailed in Table 2. All of these activities, with the exception of recommendation 5 (design of a pre-service teacher education course) are to be completed under the supervision of the project implementation’s Professional Development Leadership Team (PDLT). The design of the pre-service course was completed by the classroom assessment expert during the design phase. The development and implementation of the course will be at the discretion of the country’s higher education institutes. The areas of work listed above in Table 1 are elaborated below.

Table 2: Classroom Assessment Related Recommendations

| Component                                      | Activity                        | Responsible Party                         | Product/Result                        |
|--|---------------------------------|---|---------------------------------------|
| 1. Classroom Assessment Leadership Team (CALT) | Collaboration and communication | NAEC, NCD, TPDC and HEIs (2 members each) | Clear and open communications         |
| 2. Professional Development of CALT            | ATI (Training Institute)        | CALT members                              | Basic common understanding            |
|  | Workshops in Tbilisi            | All CALT and other MES personnel          | Developing understanding              |
|  | FIP online courses              | All CALT and other MES personnel          | Understanding of formative assessment |
| 3. Course Components (PD)                      | Design                          | TPDC and consultants                      | Design document                       |
|  | Development                     | Selected provider                         | Course materials                      |
|  | Implementation                  | TPDC selected trainer                     | Course delivered                      |
| 4. Course (PD)                                 | Design                          | TPDC and consultants                      | Design document                       |
|  | Development                     | Selected provider                         | Course materials                      |
|  | Implementation                  | TPDC selected trainer                     | Course delivered                      |
| 5. Pre-Service Course Outline                  | Design                          | GOPA CA Expert                            | Course outline                        |
|  | Development                     | HEI (Optional)                            | Course materials                      |
|  | Implementation                  | HEI (Optional)                            | Course delivered                      |
| 6. Definition and Communication Document       | Prepare                         | NCD                                       | Standard definition                   |
|  | Disseminate                     | NCD                                       | Portal postings                       |
| 7. eGradsbook                                  | Recommend                       | ICT consultant and EMIS                   | Recommendation                        |
|  | Select                          | PDLT/CALT                                 | Selection                             |
|  | Convert                         | Software consultant and EMIS              | Localized resource                    |
|  | Implement                       | MES and EMIS                              | Software in use                       |
| 8. eAssess                                     | Convert                         | EMIS selected provider                    | Modified resource                     |
|  | Implement                       | MES and EMIS                              | Software in use                       |
| 9. Item Bank                                   | Outcomes identified             | NCD                                       | Subject outcomes listed               |
|  | Items development               | NAEC and HOTS consultant                  | Items for database                    |
|  | Approval and integration        | NCD and NAEC                              | Items integrated                      |

The work on the remaining recommendations will be completed during the project implementation by members of various MES agencies, including the National Teacher Professional Development Center (TPDC), National Curriculum Department (NCD), National Assessment and Examination Center (NAEC), National Center for Education Quality and Enhancement (NCEQE), and National Center for Education Management Information System (EMIS).

1. **Classroom Assessment Leadership Team (CALT):** Creation of a permanent working group with representatives from NAEC, NCD, TPDC, and HEIs to monitor changes in classroom assessment resources and practices. This group will report to a senior staff person in General Education. Through the working group, changes that take place within one agency can be appropriately accommodated in other agencies. For example, if NCD posts new resources for classroom assessment on their portal, HEIs and TPDC can reflect these changes in their respective course and professional development offerings.

2. **Professional Development of CALT:** Individuals on the classroom assessment leadership team need to be up-to-date on the most current classroom assessment practices, theory, and research. Through the project they are to be given opportunities to attend Pearson's Assessment Training Institute (ATI), take assessment related online courses on formative instructional practices (FIP), and participate in locally offered workshops on assessment topics. With the latest information on assessment, this team will be in a strong position to lead their respective agencies' assessment related efforts, and ensure coordination with activities that take place elsewhere in the system.

3. **Course Components:** Thirteen different courses for teacher professional development and four weeks of Leadership Academy training for school leaders are recommended for implementation in the project. Classroom assessment is a topic that will be taught and modelled in each of these training activities. The design of these trainings will be the responsibility of TPDC with technical support from the implementation project's consultants. The development of these courses, including piloting and revisions, will be managed by TPDC but outsourced to a service provider. The final implementation of the courses will be conducted by TPDC using the trainers trained and contracted for specific training sessions.

4. **Course:** One of the professional development courses mentioned above (under 3) focuses exclusively on classroom assessment. The design, development, and implementation of the course will be conducted in a manner identical to that described for the other trainings.

5. **Pre-Service Course Outline:** As mentioned, the creation of this outline was completed during the design phase. The development and implementation of the course are optional activities that may be completed by Georgian HEIs. The implementation of such a course will help to ensure that new teachers coming from these institutions will be prepared to use the same methods as the teachers receiving professional development training and support.

6. **Definition and Communication:** NCD, as a department of MES, is well positioned to create and be the communication conduit for the dissemination of official information related to classroom assessment. Through the NCD portal (currently under development) the official definition of classroom assessment terms, sample assessment activities, and model test items can be disseminated. The aim of identifying a single source for such information was to reduce the likelihood that different agencies provide different interpretations or conflicting communications to teachers.

7. **E-Gradebook:** No online gradebook is currently being used by teachers in Georgia's public schools. An open source gradebook will be selected and modified to use the Georgian language and support the 10 point grading system that is used in Georgia. The modification of the gradebook will be managed by EMIS, and the resulting product will be made available for use to all teachers.

8. **E-Assess:** A USAID funded project in Georgia, known as the G-PriED, is creating an online test development and delivery system for use by Georgia's teachers in grades 1-6. EMIS will lead the modification of this online system so that it supports the grade 7-12 STEM subject areas targeted by the implementation. The modified software will enable teachers to prepare online or print versions of tests. Using the software, teachers will be able to drill down to the specific topic being taught, locate the corresponding outcomes and associated test items, select the items they would like to use, and produce tests.

9. **Item Bank:** One way to support teachers' use of higher-order questions is to provide questions that model what teachers should be producing themselves. NAEC, working with the support from NCD, will develop outcome related assessment items and populate the e-Assess database with them.

The recommendations detailed above can only be successful through careful implementation. The size and complexity of the proposed project, as well as the existing cultural and contextual conditions in Georgia, pose a number of significant threats to the successful implementation of the recommendations. These threats are discussed in the following section.

## **Threats to Successful Implementation**

It is important to acknowledge that there are several factors that pose potential threats to the successful implementation of the proposed classroom assessment recommendations. These factors fall into four broad categories: 1) operational, 2) attitudinal, 3) political, and 4) organizational. Each category of threat is discussed below.

### **Operational: A Weak Implementation Startup**

The overall project is quite complex and the classroom assessment activities are only one part of the whole. For the classroom assessment activities to be successfully implemented, the entire project needs to get off to a quick and efficient start.

Within the various departments and agencies of MES, there are a number of talented individuals who possess expertise relevant to an efficient project startup, however, through discussion with MES it was determined that further capacity building is required. Therefore, an international firm needs to be identified to conduct and manage the implementation of the project until the Georgian project staff builds their capacity and the systems are in place. This firm will be responsible for recruiting and employing the consultants who will provide technical assistance (mostly during the first 2 years), and for assisting the TPDC personnel in conceptualizing and establishing the systems necessary for the implementation, monitoring, and support of the various recommendations and sub-activities. Near the end of year two, as the need for international technical support diminishes, operational control of the project will be conducted by TPDC with limited support from consultants.

### **Attitudinal: Being Perceived as a Fad and Educators' Reluctance to Change**

Over the past ten years, education in Georgia has been volatile. Schools, teachers, students, and communities have suffered from on-going changes in policies, shifting from a centralized to a decentralized approach and back, multiple revisions to the national curriculum, a push to require teachers to be certified that was then put on hold, and frequent appointments of new Ministers. This volatility has created a 'wait and see' attitude among many. Educators, among others, tend to view newly proposed changes with extreme skepticism. They believe that if they wait a bit, the new fad will either go away or be reversed.

This attitude of passive resistance among educators could put the proposed classroom assessment reform in jeopardy. If teachers believe that this project is just

another temporary disturbance that given a little time will pass, there is little hope that modern teaching and learning methods associated with student-centered learning environments and classroom assessment will be implemented regardless of teacher training efforts.

Some educators embrace a belief in the status quo. Their position is more along the lines of, 'I teach the way I was taught. If it was good enough for me, it is good enough for my students.' This, of course, fails to take into consideration all the changes that have taken place in society and workforce needs since the teacher was in school. Unlike in the past, post-Soviet societies need thoughtful, informed, and active citizens. Workplaces now require workers to be learners, capable of growing and changing as job requirements change. This status quo attitude also ignores recent research that has identified new and more effective ways of teaching and learning.

As with teachers who might view the project as a passing fad, educators with a status quo point of view are likely to adopt a passive resistance attitude. Their reluctance to embrace the new methods would undermine the ability of the project to change classroom behaviors and impact student performance.

### **Political: Policy and Legislative Turmoil**

As stated above, Georgia's recent education history has included a large number of policy, leadership, and legislative changes. Although these changes were undoubtedly implemented to strengthen the education system, it could be argued that the frequency of change is creating an instability that is preventing initiatives from becoming established and integrated for sufficient time to have measurable and lasting effects.

The project design recommendations around classroom assessment include changes to the roles of school leadership and SPDF, teaching methods, classroom management, and other areas of education that, in Georgia, are heavily influenced by national policy and legislative action. The historic turmoil related to education policy, leadership, and legislation presents two major threats to the success of this project. The first, the perception that any change is only temporary (addressed above), can best be addressed through an aggressive and targeted marketing and communication plan. The second, the speed at which policy and legislative decisions are enacted, must be considered separately.

Perhaps the most significant recommendation that requires legislative action is expanding the role of principals to include education leadership. This added responsibility puts principals in a key position to influence and support the adoption and integration of new teaching and learning practices, including those related to classroom assessment. However, based on evidence from recent history, drafting acceptable legislation and enacting this change may require more time than the current project design permits.

### **Organizational: Communication and Cooperation**

It is widely recognized and openly discussed, even among MES department and agencies, that the organization of MES and its associated agencies is not conducive to collaboration, cooperation, and information sharing. This is at least partially due to the legal structure of the centers associated with MES (TPDC, NAEC, and NCEQE). These centers are independent entities, separate from MES, and have some revenue generating responsibilities. As such, they often compete for resources and are reluctant to share tasks and support each other's effort.

Successful implementation of the classroom assessment recommendations depends on high levels of collaboration, cooperation, and information sharing among and across MES and its agencies. Failure in this area could jeopardize project outcomes.

### **Conclusion**

Like many countries, Georgia is acknowledging the importance of education to the health, vitality, and competitiveness of the nation. For Georgia, the most immediate education goals are improved student outcomes. The hopes and expectations are that better educated graduates will create a stronger workforce, more entrepreneurship, and an improved economy.

One important approach Georgia is undertaking as it strives to achieve these results is to reform the teaching practices of grade 7-12 STEM teachers. Classroom assessment is one of these practices and it is seen as key to helping teachers reform their approaches to teaching. Research has shown that through the effective integration of classroom assessment, students and teachers both benefit. And the most important of these benefits for students is improved learning outcomes.

While focusing on grade 7-12 STEM teachers, the recommendations included in the proposed design attempt to effectively integrate classroom assessment throughout the Georgian education system. At the national level, education leaders are involved in addressing legislation, managing communication of unified messages around classroom assessment, and coordinating activities across MES agencies. At the school level, leaders are trained and involved in creating supportive schools, and in monitoring and mentoring teachers' integration of classroom assessment methods. At the classroom level, teachers are trained through an on-going system of courses and supportive activities. In addition, teachers are given tools and resources and are encouraged to use classroom assessment to help make the transition from providers of information to facilitators of learning. Finally, at the pre-service level, HEIs are given guidance and encouragement to help ensure future teachers are better prepared to apply both formative and summative assessment techniques when they enter Georgia's teaching profession.

The challenges faced by teachers when implementing classroom assessment activities, and addressing cross-cutting issues have led to the recommendations discussed. Although the context for this discussion is specific to Georgia and this initiative, the issues are largely generalizable to other developing and emerging country contexts. Ministries, organizations, and countries seeking to improve student outcomes, and in need of classroom assessment reform, may benefit from the application of a similar approach.

### References and notes:

- Bell, B., & Cowie, B. (2000). The characteristics of formative assessment in science education. *Science Education*, 85, 536-553.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7-74.
- Black, P., & Wiliam, D. (2001). Inside the black box: Raising standards through classroom assessment. *Phi Delta Kappan*, 80, 1-13.
- Chappuis, J., Stiggins, R. J., Chappuis, S., & Arter, J. A. (2012). *Classroom assessment for student learning: Doing it right—using it well* (2nd ed.). Portland, OR: ETS Assessment Training Institute.
- Dick, W., Carey, L., & Carey, J. (2001). *The systematic design of instruction* (5th ed.). New York, NY: Allyn & Bacon.
- Encyclopedia of the Nations (2014). Georgia: country overview – Location and size. Retrieved November 18, 2014, from <http://www.nationsencyclopedia.com/economies/Europe/Georgia.html>
- Encyclopedia of Earth (2009, May 18). Countries of the world ranked by size. Retrieved December 1, 2014, from <http://www.eoearth.org/view/article/151522/>

- Fuchs, L. S., & Fuchs, D. (1986). Effects of systematic formative evaluation: a meta-analysis. *Exceptional Children*, 53(3), 199-208.
- Fuchs, L. S., Fuchs, D., Karns, K., Hamlett, C. L., Kataroff, M., & Dutka, S. (1997). Effects of task focused goals on low achieving students with and without learning disabilities. *American Educational Research Journal*, 34(3), 515-543.
- Graue, M. E. (1993). Integrating theory and practice through instructional assessment. *Educational Assessment*, 1, 293-309.
- Griffiths, A., VanDerHeyden, A. M., Parsons, L. B., & Burns, M. K., (2006). Practical applications of response-to-intervention research. *Assessment to Effective Intervention*, 32(1), 50-57.
- Index, (2014). Georgia, population. Retrieved November 25, 2014, from: <http://www.indexmundi.com/georgia/population.html>
- Infoplease, (2014). Georgia, population. Retrieved November 25, 2014, from: <http://www.infoplease.com/country/georgia.html>
- International Bank for Reconstruction/The World Bank (2013). Doing business 2014: Understanding regulations for small and medium sized enterprises. Washington, DC: Author. Retrieved November 10, 2014, from <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB14-Full-Report.pdf>
- Kingston, N., & Nash, B. (2009, April). *The efficacy of formative assessment: A meta-analysis*. Paper presented at the annual meeting of the American Educational Research Association.
- Kobakhidze, M. N. (2010). Teacher incentives and the future of merit-based pay in Georgia. *European Education*, 42(3), 68-89.
- Millennium Challenge Account – Georgia, (2014). Terms of reference: Improving general education quality. Tbilisi, Georgia: Author
- National Research Council (2001). *Classroom assessment and the National Science Standards*. Committee on Classroom Assessment and the National Science Education Standards. J. Myron Atkin, Paul Black, and Janet Coffey (Eds.) Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press
- Ormrod, J. E. (2008). *Educational psychology: Developing learners* (6th ed.). Upper Saddle River, NJ: Pearson Education.
- Paul, R. (1990). *Critical thinking: What every person needs to survive in a rapidly changing world*. Rohnert Park, CA: Sonoma State University, Center for Critical Thinking and Moral Critique.
- Pinchok, N., & Brandt, W. C. (2009). Connecting formative assessment research to practice. Chicago, IL: Learning Point Associates.
- Popham, W. J. (2008). *Transformative assessment*. Alexandria, VA: ASCD.
- Shepard, L. (2000a). *The role of classroom assessment in teaching and learning*. Santa Cruz, CA: The Regents of the University of California.
- Shepard, L. (2000b). The role of assessment in a learning culture. *Educational Researcher*, 29(7), pp. 4–14

- Steadman, M. (1998). Using classroom assessment to change teaching and learning. *New Directions for Teaching and Learning*, 75, 23-35.
- Stiggins, R., & Chappuis, J. (2005). Using student-involved classroom assessment to close achievement gaps. *Theory into Practice*, 44, 11-18.
- Teaching Today, (2005, January). Writing effective tests: A guide for teachers. Retrieved November 17, 2014, from: <http://www.glencoe.com/sec/teachingtoday/educationupclose.phtml/40>
- Trends in International Mathematics and Science Study (2015).TIMSS 2011 international database. Chestnut Hill, MA: Author. Retrieved May 15, 2108, from <http://timssandpirls.bc.edu/timss2011/international-database.html>
- Vernon, S. G., & Szymanski, A. (2013). Critical thinking: More than test scores. *International Journal of Educational Leadership Preparation*, 8(2), 16-25.
- Wagner, D. A. (2011). *Smaller, quicker, cheaper: Improving learning assessments for developing countries*. Paris, France: UNESCO.
- William D. A., & Thompson, M. (2007). Integrating assessment with instruction: what will it take to make it work? In (C. A. Dwyer, Ed.). *The future of assessment: Shaping teaching and learning* (pp. 53-82). Mahwah, NJ: Lawrence Erlbaum Associates.
- Waugh, C. K., & Gronlund, N. E. (2012). *Assessment of student achievement*. Upper Saddle River, NJ: Pearson.
- World Economic Forum (2014). Global competitiveness report 2014/2015. New York, NY: Author. Retrieved November 17, 2014, from <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>

## Summary

### **Reforming Georgian Education: Recommendations for using Classroom Assessment to Improve Student Outcomes**

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In post-Soviet Georgia, much of the teaching and learning in grades 7-12 is conducted in a manner very similar to that used generations ago. Teachers stand at the front of the classroom dispensing information as they lead students through a page-by page review of the text. The concept of using classroom assessment techniques to gather individualized data that will inform instructional practices is unknown to the majority of Georgia's teachers. This article describes efforts to explore the education context in Georgia and to develop project recommendations for effective support of teacher growth and their integration of classroom assessment practices into their teaching. It concludes by recognizing threats to the successful implementation of the recommendations and suggesting the generalizability of the project's methods and resulting recommendations.

**Keywords:** classroom assessment, education reform, Georgia, post-Soviet, student-centered, formative assessment, summative assessment