A Fresh Restart? Google for Education in Romania: Effectiveness of Training Teachers in Using Google Tools for Teaching and Learning

Olimpius Istrate¹, Simona Găbureanu²

(1) University of Bucharest
   Bd. M. Kogălniceanu 36-46, Bucharest 050107, Romania
   E-mail: olimpius.istrate[at]g.unibuc.ro
(2) University Politehnica of Bucharest
   Splaiul Independenței Str. No 313, Bucharest 060042, Romania
   E-mail: simona.gabureanu[at]upb.ro

Abstract

While Google is providing some customised applications for free for educational institutions and for teachers, several accompanying initiatives are aiming to boost the usage of these applications and presumably to help teachers to meaningfully integrate them into learning. Teacher training programmes were started in several countries. In Romania, teachers were trained in 2014 and 2015 mainly through two specific courses, one face-to-face and one online. The paper presents the result of an evaluation research on the teacher training programmes, conducted in mid-2015 by a team of researchers in education, with the purpose to provide stakeholders – teachers, trainers, education experts – with relevant information about teachers’ training needs, programmes’ implementation, programmes’ results and impact. Whichever the form of organization, the courses were very well received by the participants teachers, who found it helpful, complementing their pedagogical and discipline-related skills. With Google tools, teachers are more efficient in solving administrative tasks, they have more professional development opportunities, participate more in collaborative educational projects and succeed to create more interactive activities for their learners. Students participate more in activities including online applications, understanding better the learning content and being more creative. The evaluation reveals as well several downsides and bottlenecks in the transfer of the training acquisitions to everyday teaching and learning, related to managerial support, motivation, prerequisite skills. However, whilst not new to teachers and even less rooted in pedagogy, the training in using ICT tools to support their everyday teaching seems to have a new dimension when a big name such as Google is endorsing it, providing new incentives for education innovation supported by new technologies.

Keywords: teacher training, digital skills, teachers’ competencies, ICT tools in education, computer-assisted instruction, training programme evaluation

1. Another teacher training programme to introduce ICTs

The initiative of Google to train teachers in using the ICT tools for education is part of Google for Education programme. In Romania, a framework agreement was signed with the Ministry of Education, with the overall purpose of “ensuring better preparedness of youth for professional life, through offering access to technology and training in using online tools dedicated to students and teachers in pre-university education”. The teacher training component, aiming to prepare around 15,000 teachers in about two years, is ensured through cascade training, started by Junior Achievement Romania, the local organiser and coordinator of the programme.
Not being the first programme of this kind, it builds upon several layers of preparedness initiatives targeting teachers, started back in 2000 and supported by the Ministry of Education and companies such as Microsoft, Intel, Oracle, Siveco Romania, sometimes in partnerships with NGOs and governmental players.

From the beneficiaries perspective, Google training initiative reinforces the emphasis on education innovation assisted by the ICTs, from a slightly different perspective and using a different approach, quickly presenting the tools such as Google Mail, Calendar, Drive etc. within the training sessions, and leaving the exploration of possibilities to teachers, as a follow-up task, to be adjusted according to the area and level of teaching. Basically, the training content is a generic one and could be delivered to virtually any occupational domain’s professionals such as medical staff, managers, scientists and so on; several exercises places the content within the education general context and link it with daily teaching and learning.

To what extent this approach is appropriate for a significant change in teaching behaviour and for reaching the overall ambitious goal of better preparing students for professional life?

2. Digital competencies for students and teachers

According to Horizon Report -2014 Schools Edition, one of the major imminent trends of the educational change is the changing role of the school teachers as a result of the ICT influence. The experts consider that the focus on open educational resources (OER) and the valorisation of both, traditional and virtual learning methods are expected to have a significant impact on schools in Europe, no later than 2017. Students’ digital competences and students’ participation in designing the learning activities are seen as both challenges and drivers of innovation and change in European school.

The panel experts have anticipated the time-to-adoption in school of technological developments that are expected to support the educational change: 2015 or before was the time mentioned for cloud computing and tablet computing (Google Apps for Education, Skype, Dropbox). In their opinions, the interest of the European school in cloud computer is increasing due to the rapid integration of cloud computing in our daily lives, through the expansion of mobile Internet and the increased use of devices expressly designed to operate in the cloud. Cloud computing has become an increasingly attractive option for delivering education services more securely, reliably, and economically. Its benefits of improving productivity and expanding collaboration in education are widely recognised.

Researches on the ICT use in education reveal that although the availability of ICT in school is increasing, teachers did not use the technology as expected (Aldunate & Nussbaum, 2013; Mehlenbacher, 2010; NESTA, 2012; Vrasidas, Glass & Zembylas, 2009; Wikan & Molster, 2011, apud Vrasidas, 2014). Most of teachers combine new technologies with traditional teaching methods.

In Romania, both initial and continuous teacher training programmes are providing teachers with ICT pedagogy and digital competencies. A number of researches and evaluations issued from 2004 onwards are available and revealing different stages of development, reporting progress on schools’ organisational culture, in teachers’ ability to integrate ICTs in educational situations, and as well regarding impact on learners’ achievements such as key-competencies, school performance, level of autonomy, creativity etc.

3. Evaluation methodology and the sample

Carried out in May 2015, the investigation aimed to reveal the added-value of the teacher training sessions in using Google tools for education, which have been organised during 2014 and beginning of 2015. A comprehensive questionnaire-based survey – complementing the review of the training curriculum and the analysis of all 18 online communities set up to support the follow-
up process – targeted the teachers who attended at least one formal teacher training programme on using Google Tools for Education.

It should be pointed out that teachers were trained in 2014 and 2015 mainly through two specific distinctive courses, one face-to-face and one online, part of separate teacher training programmes. The questionnaire was distributed online, only through the communication channels used by participating teachers. 161 teachers responded to the invitation and took the survey. Additionally, 6 trainers provided more information on the development of the training sessions, the training content delivered, and the first-hand reaction of the participants.

The considered final sample comprised 159 teachers, distributed as follows: 78% urban teachers and 22% rural teachers; 6.3% kindergarten teachers, 20.1% primary school teachers, 25.2% gymnasium teachers and 48.4% high school teachers; 19.5% of teachers having up to 10 years of teaching experience, 35.8% of teachers having from 11 to 20 years of teaching experience, 27.7% of teachers having from 21 to 30 years of teaching experience, 17% of teachers having over 30 years of teaching experience. While around 15% of the respondent teachers took part in both conventional and online training programmes, 40.3% of the total indicated the face-to-face training programme as the reference for their provided responses, while 59.3% of responding teachers referred to the online training sessions.

![Figure 1. Teachers distribution by the training program attended (N)](image)

4. The training process and the follow-up

The curriculum of any teacher training programme should include the pedagogical perspective, with examples of educational applications in the speciality discipline of participants – in other words, the final goal of the training should necessarily target the transfer of learning acquisitions into everyday teaching practice, facilitating it as much as possible. In reality, especially if the time allotted is scarce, the pedagogy is left aside, sometimes assuming that participants would figure out anyway an even better way to cope with specific challenges encountered in their classrooms. The analysis of the Google tools teacher training curriculum used in Romania suggests that in the 12-hours training the focus was on technology; however, according to the trainees’ opinions, the mean on the scale 0-4 shows a balanced weight of all three elements, with the highest score for the technical aspects (3.48), at all educational levels – preschool education, primary education and secondary education, followed by pedagogical aspects (3.3).
Within the training programmes, the trainees’ participation in the online learning communities, specially created to support the use of Google tools in education, was encouraged. Almost half of respondents are members of the local Google Educator Group (49.7%). Most of them attended the online training program. 30.2% of respondents, although not contributing with messages to the community, are following the message exchange between the community members. 13.9% of respondents contribute with messages/ comments to the learning community at least once a month. They perceive the usefulness of their local GEG community as mainly linked with its function of offering support in using ICT, refreshing and updating the information acquired within the training (but not further developing the digital competencies), keeping in touch with colleagues:
As stated in the programme’s objectives, the role of the Google Educators Groups is to build core-groups of leaders and champion teachers, interested in using ICT for education, able to further support their peers. While it is not very clear if this support is supposed to be exclusively related to the technical aspects, the analysis of the message exchanges in all GEGs is showing the focus on the technological aspects and in particular on the Google tools – or at least a neglect of the pedagogy associated with the integration of ICT tools in teaching and learning.

Although quite large, with an average of 100 members and some having up to 230 users, most of the existing GEGs in Romania are counting an exchange of around 2 messages per month, usually re-shares of announcements, without any other comment. Even though the enthusiasm of participant teachers determines high scores for all the suggested functions of the Google communities set up – all above 2, on a 0-3 scale – it is obvious that the actual usage of this powerful (training follow-up) tool is underused exactly regarding its mostly recognised need and its potentially highest added value – as transforming the learning environment and practices requires different layers of complementary processes and sustained support especially in pedagogy aspects (Velea, 2012).

Related to the level of teachers’ satisfaction on the training program, 86.1% of the teachers graded the training course with 10. Among them 84.4% attended an online program, while 87.2% attended a face-to-face training program. 2.5% of all participant teachers rated the training program with grade 7 or less. Face-to-face training participants mentioned insufficient training materials and the need for more practice on using Google tools as motives for the lower score they accorded to the training course: I think more hours are needed for practicing the Google tools presented by trainers; I could not understand all the tools within the course (e.g. Google calendar); More practical training is needed for Quizzes; Insufficient teaching materials; A training package would make the course complete. Online sessions were criticized for the heterogeneity of the learning groups, the difficulty to work in teams, and the large amount of information transmitted in a short time.

<table>
<thead>
<tr>
<th>Grade</th>
<th>The online course</th>
<th>The face-to-face course</th>
<th>Both groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1.1%</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1.1%</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1.6%</td>
<td>1.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>8</td>
<td>6.3%</td>
<td>2.1%</td>
<td>3.8%</td>
</tr>
<tr>
<td>9</td>
<td>7.8%</td>
<td>7.4%</td>
<td>7.6%</td>
</tr>
<tr>
<td>10</td>
<td>84.4%</td>
<td>87.2%</td>
<td>86.1%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

5. Transfer of learning acquisition
18.9% of teachers have used the Google tools with their students once a week or even more frequently, 25.8% of teachers once or twice a month, and 34.6% of teachers once or twice a semester. These data are encouraging, given the limited time availability of teachers, between the training program completion and the participation in this evaluative study. Only 63% of the respondents graduated the course before the beginning of the second semester of the school year.

According to the evaluation findings, the transfer of learning acquisitions is influenced by several factors, depending on the environment where the school is located. Considering the
responses of both, rural and urban teachers, the main critical factors are: Poor material conditions in school (e.g., ICT equipment) (mean 2.38) and lack of managerial support (mean 1.54).

School ICT infrastructure (e.g., laptops, tablets, and netbooks; broadband; high connectedness etc.) is also presented as one of the critical factors that influence how successfully ICT is deployed in school teaching and learning, in the report Survey of Schools: ICT in Education (2013). On the other hand, according to the report of the European Schoolnet (European Commission, 2013), teachers’ confidence in their own digital competence and their perceived utility of the ICT use in class help teachers to overcome the barrier of ICT equipment. Thus, teachers who were more confident in their digital competencies, but encountered difficulties determined by the school ICT infrastructure, have used ICT in class more frequently than teachers with few obstacles and less confidence. (Trends Shaping Education 2014, p. 6, apud European Commission/European Schoolnet, 2013)

Beside the above-mentioned factors, urban teachers face with lack of students’ motivation and interest (mean 1.43), low level of ICT competences of students (mean 1.24) and low level of students’ knowledge (mean 1.19). The average ratings of the same factors indicate a slightly different situation in rural schools: low level of ICT competences of students (mean 1.40); low level of students’ knowledge (mean 1.14); lack of students’ motivation and interest (mean 1.00). As expected, the low level of ICT competences of students is more demanding for rural than urban teachers, since disadvantaged backgrounds is considered one of the main factors of the second digital divide, according to Trends Shaping Education 2014 (ibidem, p.3).

---

**Figure 4. Limits in transferring the learning acquisitions, rural-urban comparison**

A large majority of teachers have appreciated as significant the role of the training program in changing the way they design and conduct the instructional activity: 52.2% -to a great extent; 26.4% - to a very great extent.
The results show a high level of teachers' confidence in the program impact on the educational practices, regardless of their teaching experience. On the other hand, the highest frequency of the negative responses (not at all or to a small extent) was registered at respondents having less than 10 years of teaching experience – 9.7%. Most likely, for those teachers, neither their digital competencies nor the confidence are the issues, but their perceived utility of Google tools for pedagogical goals. In our opinion, more attention should be paid to less experienced teachers, in terms of technology-supported pedagogy, in order to integrate Google tools in the educational process.

Table 2. The estimated impact on the design and conduct of the class (%) – by level of experience in teaching

<table>
<thead>
<tr>
<th></th>
<th>Less than 10 years</th>
<th>11 - 20 years</th>
<th>21 - 30 years</th>
<th>over 30 years</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>3.2%</td>
<td>1.8%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>To a small extent</td>
<td>6.5%</td>
<td>3.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>To a moderate extent</td>
<td>9.7%</td>
<td>21.1%</td>
<td>18.2%</td>
<td>18.5%</td>
<td>17.6%</td>
</tr>
<tr>
<td>To a large extent</td>
<td>51.6%</td>
<td>49.1%</td>
<td>47.7%</td>
<td>66.7%</td>
<td>52.2%</td>
</tr>
<tr>
<td>To a very great extent</td>
<td>29.0%</td>
<td>24.6%</td>
<td>34.1%</td>
<td>14.8%</td>
<td>26.4%</td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

6. Conclusions

The integration of Google tools into daily educational practices involves both good digital and pedagogical skills, enhanced by a good knowledge of the educational usage and potential of this technology.

As revealed by the teachers participating in the specific training programmes, Google tools are contributing significantly to making teachers more efficient in solving administrative tasks, in discovering professional opportunities and taking part in CPD, in creating more interactive activities for their learners. On their turn, students participate more in educational activities involving the usage of online applications, understanding better the learning content and being more creative.

The integration of Google tools into teaching and learning and its impact of the is yet to be monitored, and consequently the added value of the initiative of Google is still under evaluation. While the reach of the final scope is almost impossible to properly measure – given the ambitious goals, the difficulty to isolate variables, and in the absence of an initial evaluation or an adequate
contextualised baseline – it is almost certain that the initiative triggered a new level of interest, refreshed teachers and students’ enthusiasm, brought back in focus the desire to innovate education (situations), and complemented teachers’ repositories of methods to address new generations of learners. Evaluation reports such as the one presented here would as well have their roles in supporting the integration of ICT tools into teaching and learning, towards a responsible use, significant and correctly designed from the pedagogical perspective, useful for (nowadays) learners.

References
Martin, Sergio; Diaz, Gabriel; Sancristobal, Elio; Gil, Rosario; Castro, Manuel; Peire, Juan (2011). New technology trends in education: Seven years of forecasts and convergence. Electrical and Computer Engineering Dept., 57.3, Spanish University for Distance Education (UNED), Madrid, Spain.