

Bridging Educational Gaps through Volunteers; Implementation, Problems and Their Solutions

Tabish Manzoor

Department of Computer Science,
Information Technology University
Lahore, Pakistan.
mscs15039@itu.edu.pk

Waleed Iqbal

Department of Computer Science,
Information Technology University
Lahore, Pakistan.
mscs15009@itu.edu.pk

Eisha Tir Razia

Department of Computer Science,
Information Technology University
Lahore, Pakistan.
mscs15061@itu.edu.pk

Samia Razaq

Department of Computer Science,
Information Technology University
Lahore, Pakistan.
samia.razaq@itu.edu.pk

ABSTRACT

Teachers play a central role in education. However, there are many factors like non-teaching activities given to teachers besides the teaching workload, and the low or insufficient qualification of teachers, which can lower the quality of education imparted by teachers, especially in the developing countries. In this paper, we have proposed a volunteer based solution named “**EDUCATION ASAAN**” in Pakistan where volunteers will be placed with teachers of different public sector and private sector educational institutes to share the workload of teachers there, to complement the learning process as well as to improve the quality of education. The paper mentions semi-structured interviews from teachers to understand the kind of work burdens they face as well as their feedback on our proposed solution. We discuss the findings of different surveys conducted in different educational institute from different students and potential volunteers as well. With each of the feedback, the paper also tries to discuss the problems in different phases of selection, placement and evaluation of these volunteers and their possible solutions.

Categories and Subject Descriptors

A.1 [INTRODUCTORY AND SURVEY]; K.4.3 Organizational Impacts: Computer-supported collaborative work; H.5.2 [Information Interfaces and Presentation]: User Interfaces evaluation/methodology; H.5.2 [User Interfaces]: Interaction styles

General Terms

Design, Human Factor, Experimentation

Keywords

Volunteer, ICT, ICT4D, Education, Teachers, Workload

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author. Copyright is held by the owner/author(s).

ICTD '16, June 03-06, 2016, Ann Arbor, MI, USA
ACM 978-1-4503-4306-0/16/06.
<http://dx.doi.org/10.1145/2909609.2909627>

1. INTRODUCTION

Education plays an important role in the individual as well as collective development within any country. However, the quality of education depends largely upon the teachers who provide or facilitate this education.

In Pakistan, there are around 146,185 formal primary schools, 42,147 middle level (Lower Secondary) and 29,874 secondary schools where 75% of these are public sector schools, 10% private sector schools and the remaining almost equally divided non-formal basic education schools. With this huge number of educational institutes, it is important to take steps to increase the quality of education otherwise dropout rate and illiteracy in Pakistan will further increase and it will affect the progression of Pakistan.

Pakistan has the one of the highest out of school children [1] despite being the sixth populous country in the world [2]. The reason for drop-outs are not only due to the infrastructural and economic reasons but are also accounted due to student motivation and learning. Students drop out from school when the teachers do not take regular classes, do not teach the required courses, or the students do not understand the concepts well and thus do not perform well in schools. Fear of failure and punishment [3] also forces many to stop going to school. In low-income communities, especially where parents are non-literate or semi-literate, the chances to rely on family's help to learn the concepts are also reduced and the overall learning of students becomes limited.

In such cases, presence of a volunteer - who can be a student of advanced classes, can help bridge this gap of learning by imparting knowledge about concepts and learning - which could not be covered due to limited on-campus or off-campus support in learning.

In Pakistan, government school and college teachers are not well trained. Even if the teachers are trained enough, they are burdened with extra workload like additional administrative tasks, government duties like vaccination drives and election staff duties due to which they cannot concentrate on students and the course content remains uncovered due to limited or reduced instructional time [4]. To compensate for this gap in learning, we have introduced an idea to engage university students with these teachers to share their teaching workload so that each student can

get enough attention or if teacher is not well qualified; students can get good quality of education through these volunteers. Volunteers can also be encouraged to join the teaching profession so that quality teachers can be produced. Volunteers on their own cannot always confirm standardized contribution without the presence of qualified teachers or proper training. Fenzel et. al. [5] examined the effectiveness of using volunteer teachers in 11 alternative urban middle schools. Their study showed that experienced teachers have more control over the class and the students find the class more conducive to learning in case of experienced teacher as compared to a volunteer teacher. In the same study authors described that volunteer teachers have also proven to be useful resources, provided that they are given proper training.

A five-year experience of the Experimental Programs Division at Kent State University with the use of volunteers in college teaching suggests that there may be intrinsic advantages to volunteerism in higher education [6].

2. RELATED WORK

Researchers have also looked at volunteer learning in previous studies. Barbara A. Wasik [7] suggested guidelines for schools or community organizations which developed volunteer tutoring programs to help young children in process of reading and learning. These guidelines are based on evidence from well-researched and effective tutoring programs across America. In this program, college graduates work as volunteer teachers for at-risk children attending middle schools from low income homes.

Volunteer based learning programs are not new, and a lot of work is already being done by NGOs and social enterprises across subcontinent.

There are many organizations that are working to increase the quality of education in India. India has 22% of the world population [8][9]. This large number has also increased the demand for good quality teachers, which is hard to meet. India has also facing the problem of having the 46% of the world illiterates [9]. This is where various organizations come into service to help to reduce this factor.

Teach for India [10] is a project working in 5 different cities in India. Their major function is to get the graduates in the school for teaching. Just like in this context, the Akanksha [11] is foundation and organization that provide low-income communities with high-quality education through engaging volunteers.

Bhumi [12] is also a non-profitable educational NGO and has trained more than 5000 volunteers. Bhumi's has supplementary education program for under-privileged children. Trained volunteers of Bhumi deliver the program during the weekends.

Just like above mentioned projects, a project was introduced in Pakistan, Teach Pakistan Initiative [13]. Function of this organization was to engage a selective group of students from all over the country to be a teacher in a low-income public, private, or Madrassa School.

3. OBJECTIVES

To learn more about the possible advantages and hurdles of this project as well as to get an understanding of the needs of the stakeholders involved, we conducted surveys from teachers, students and potential volunteers. Our objectives of these surveys were to extract information and feedback about the following:

- i. Reception of the idea of volunteers among teachers.

- ii. Reactions of students to the idea of learning from non-teachers.
- iii. Learning of ground realities and identification of missing information, if any.
- iv. Response of potential volunteers and volunteer education group to this idea.

4. METHODOLOGY

We conducted different surveys in different institutes. The targeted institute has been from both private and government sector. Intercommunication was by interview and questionnaire paper. We got responses from different students, teachers and university students - which are going to be volunteers. Surveys were conducted in Urdu (Local language of that region) in order to make communication better and comfortable between interviewer and interviewee. All responses were recorded on papers and on voice recorders with the permission of the interviewee.

4.1 Volunteer's Survey

We conducted 30 surveys with volunteers. All of those interviews were conducted through paper-based approach. 10 surveys were conducted with graduate students and 20 surveys were conducted with undergraduate students. 30% of the overall interviewees were female. During all of these surveys, necessary help in form of verbal guidelines for understanding the questionnaire were provided to interviewees where they found any ambiguity.

4.2 Teacher's Survey

Our target was to get interviews from teachers of diverse institutes to get a spectrum of feedback on the idea. A total of 5 teachers were interviewed. 3 of them were from schools, 1 from college and 1 from university in order to get the maximum output in feedback about our idea. All these teachers were teaching different grade students. This was done to ensure maximum diversity of opinion. They were teaching different subject that ranges from basic humanities and science to advance bachelor level subjects. One of our survey sites is shown in Fig. 1.

4.3 Student's Interviews

We conducted 50 surveys with students of different schools, colleges and universities. All surveys were conducted using paper-based approach. 30 surveys were conducted from school level students, 10 surveys were conducted from college level students and 10 surveys were conducted from university level students.



Fig. 1: Survey Site- a public school in Lahore, Pakistan

We used quota sampling for conducting these surveys. A teacher student rate was defined which was 1:10, which represents the quota of the interviewees conducted.

In order to filter the accuracy of the answers as well as ensure the seriousness of respondents, we used 'Attention Filters' by introducing 2 questions with different wording having same meaning at different points of the survey. If the interviewee has provided with similar answers to both of the question variations, then we have considered that the interviewee is attentive toward the questionnaire and is providing accurate information. The questions asked in the survey were concerned about what they are currently studying? what difficulties they are facing in studies? and what is their feedback about this idea?

We also added many option based questions to gauge the preference of respondents between two choices or options. To learn about their parameters of institution preference to serve as a volunteer, we asked the volunteers about whether they would prefer to go to an institute that is far from their hometown but has high ranking or would they prefer the educational institution that is closer but has lower ranking.

4.4 Implementation of EDUCATION ASAAN

This section explains the implementation methodology for the volunteer idea.

Duration and Method: We will introduce the volunteer based activity as a semester long course in different universities. The idea behind offering it as a course is to incentivize the students to volunteer for it along with their regular course work. The idea of incentivizing by giving credits to the students was later removed, as it goes against the spirit of volunteering. This course will be introduced twice a year where every student will have to go to any school, college and university that is allocated to them, in his/her undergraduate 2nd year or 1st year of postgraduate studies to help teachers to share their job workload.

Selection of Volunteers: Volunteers will be selected using a standardized test system to ensure their minimum knowledge level and capability before assigning them teaching tasks. Afterwards, they will be interviewed after the test.

Placement of Volunteers: The volunteer university will have the responsibility to assign educational institute to their students where its students will perform the volunteering activities and helping the teachers. We will call the educational institute where the volunteers would perform duties as '*host institute*'. The rules of placement of volunteer will be the same between institutes.

Monitoring of Volunteers: A web based portal will be introduced for monitoring the volunteers and evaluating their performance. Activities performed by the volunteers will be entered through a web portal so that their performance can be viewed on the dashboard. The collected data can be used in other educational projects as well as for future recommendation and assignment of the same volunteers. The portal will be managed by the host institute teachers, who will be mentoring and supervising the volunteers.

Initially, we will rely on the support of the universities to support this project financially, but when the project becomes mature then we can move to other financial resources like government finance and other private investors.

5. FINDINGS:

During our research for this project, we received positive comments from our stakeholders. Some of them were curious to know when this project will be implemented.

Teachers' Feedback: Teachers from different institutes appreciated this project very much and showed their interest in this project. Most of the teachers said that they will provide basic training to volunteers during their placement tenure in their

institute. Teachers were also concerned about the dress code of volunteers as they wanted the volunteers to dress formally to be a better role model for young children. They believed that dress code leaves a good impression on students. Teachers also told us that they were burdened with extra administrative tasks along with the teaching workload like administrative duties, school procurement tenders, election duties etc.

Volunteer's Perspective: Volunteers showed interest in this project. They wanted to gain and enhance their teaching skills as they wanted to do community service to increase the quality of education. In the institute selection question, more than 25 students showed a preference for teaching in schools as compared to teaching in colleges and universities. The overall preference of host institute is also visible in Fig. 2. This also addresses the point about whether they are willing to teach or not.

Students were very excited about this project as they will get exposure of up-to-date research from a university student who is doing advanced studies in a subject for the same subject for which s/he is volunteering for, in the host institute.

Some concerns were also highlighted during our interviews.

- i. Volunteers and teachers were concerned about the work timings of volunteers.
- ii. Volunteer were concerned about how they will be evaluated
- iii. Teachers and volunteers showed concern about how volunteers would be placed or allocated in any institute.

Even still with these problems, they gave us some additional ideas about how we can add functions in this project to make it more attractive.

6. PROPOSED SOLUTION

After some brainstorming with the team, we come up with some solutions to these problems.

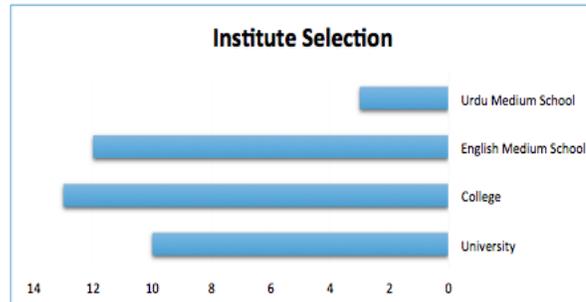


Fig. 2: Volunteer Preference for Institute

Solution for Work Timings of Volunteers: Volunteers were concerned about their work timings as they would all be university students themselves and could not promise more than a certain number of hours per week due to their schedules. It was proposed that the volunteers would require to be present for the entire duration of the working hours in the host institute for selected days in a week. These days will be decided with the supervising teacher's consent. On the remaining days, the volunteers can choose to be absent from the host institutes.

Solution for Evaluation of Volunteers: Volunteers were concerned about their during-assignment and post-assignment evaluations. The solution proposed was that the evaluation of volunteers should be done by its supervising teacher in the host institute because that teacher is available with volunteer for whole working time and can evaluate volunteer more precisely than university volunteer.

Evaluation Portal: Teacher will use a web base panel to evaluate the volunteer after basic training. A teacher can have more than one volunteer. The volunteer will be evaluated according to a defined scale with defined keywords and s/he will be graded at the end of every month on the basis of class evaluations. The teacher can also comment on the evaluation with further remarks and can also access the volunteer's previous record. In Fig. 3. a user interface of evaluation panel of volunteer is shown.

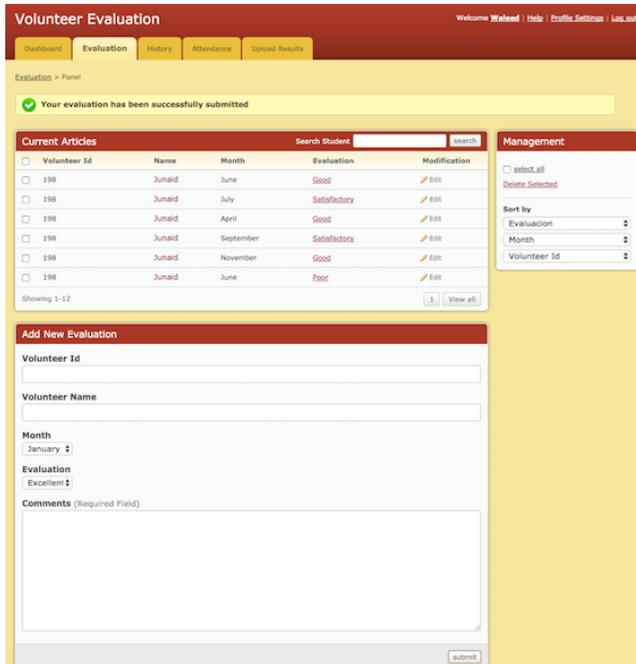


Fig. 3: Volunteer Evaluation Panel

Solution for placement of volunteers: was proposed that the number of volunteers would be placed in any institute on the basis of the result of that institute. An institute with worse academic result will get more volunteers as compared to the institute with better results.

7. CONCLUSION

From the result of our surveys, we concluded that most of the teachers appreciated this project. Through our surveys, we also found out that teachers were burdened with extra administrative tasks along with teaching workload. We first assumed that teachers will not provide additional help but they said that they will like to help us in this project. Teachers also agreed on providing basic training on teaching methods to the volunteers that could help the volunteers in their teaching profession. This is because they wanted to share this workload and believed that with a little effort in providing help to these volunteers, their workload will be reduced in future and there will be more competent and trained teachers in the market. They described that this factor encourages them to provide any help that the volunteers might want.

Students liked this idea because most of them had to take a large number of courses from the same faculty member. They showed positive interest in getting education from new teachers. Many students were not willing to take this session after school timings as they might already be tired of the school activities and classes. They also informed that they had never seen this kind of activity

in their school. No one has ever come to their school to help teachers in their profession. The students also shared that sometimes there was no class because the teacher was occupied in other activities like administrative duties, school procurement tenders, election duties etc.

Some major problems were also highlighted through these surveys. These problems include the selection, placement and evaluation of the volunteers. Teachers also showed positive response in using mobile and web interfaces in the evaluation for the volunteers.

8. ACKNOWLEDGEMENTS

We thank Information Technology University, Lahore for allowing us to use their resources for conducting this research. Our special thanks to all educational institutes, their teachers, students and staff members in helping us and facilitating us in conducting this research and all the interviewees who had given us their time and sincere and honest feedback regarding our work.

9. REFERENCES

- [1] Gulbuz Ali Khan, M. A., & Shah, S. A. (2011). Causes of Primary School Dropout Among Rural Girls in Pakistan.
- [2] Top 10 Populated Countries In the World. (n.d.). Retrieved March 31, 2016, from <http://www.whichcountry.co/top-10-populated-countries-in-the-world/>
- [3] Zarif, T. (2012). Reasons of High Dropout Rate of Students in Grades 5-6 at Public Schools of District Kashmore (Sindh-Pakistan) in 2010-11. *Journal of Research & Reflections in Education (JRRE)*, 6(2).
- [4] Anwer, M., Tahir, T., & Batool, S. (2012). PROFESSIONAL ROLE OF TEACHERS IN GOVERNMENT COLLEGES AND HIGHER SECONDARY SCHOOLS FOR F. Sc PROGRAMME IN PUNJAB: A COMPARATIVE STUDY. *Academic Research International*, 3(3), 265.
- [5] Fenzel, L. M., & Flippen, G. M. (2006). Student Engagement and the Use of Volunteer Teachers in Alternative Urban Middle Schools. *Online Submission*.
- [6] Kaplan, H. E., & Hassler, D. M. (1976). Volunteers in college teaching. *Alternative Higher Education*, 1(1), 19-24.
- [7] Wasik, B. A. (1998). Using volunteers as reading tutors: Guidelines for successful practices. *The Reading Teacher*, 51(7), 562-570.
- [8] India Population (LIVE). (n.d.). Retrieved March 31, 2016, from <http://www.worldometers.info/world-population/india-population/>
- [9] Education System in India: ICTs Cannot Work Their Magic Alone! (2011). Retrieved March 31, 2016, from <https://pritamkabe.wordpress.com/2011/04/25/education-system-in-india-icts-cannot-work-their-magic-alone/>
- [10] Teach For India. (n.d.). Retrieved March 31, 2016, from <http://www.teachforindia.org/>
- [11] Akanksha | The Akanksha Foundation. (n.d.). Retrieved March 31, 2016, from <http://www.akanksha.org/>
- [12] Bhumi. (n.d.). Retrieved March 31, 2016, from <http://www.bhumi.org.in/>
- [13] Teach Pakistan Initiative. (n.d.). Retrieved March 31, 2016, from <http://www.teachpakistaninitiative.com/>