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IMPACT OF SELF-ORGANISED LEARNING ENVIRONMENT TO STUDENT PERFORMANCE: WIUT EXPERIMENTS

Abstract: Over the past five years 64% of UK universities declared an increase in young full-time student dropouts. The main reason is great amount of students who lack the academic skills necessary for a degree. The purpose of this research is to investigate effectiveness of Self- Organized Learning Environment (SOLE) sessions on university student performance and motivation to complete a given task. Experiments were conducted using SOLE toolkit to measure improvement in homework completion among university students in terms of quantity and quality. As a result, the students from SOLE experiment groups demonstrated more freedom in student interaction and larger number of completed tasks with higher quality. This study definitely answers the question regarding positive effect of SOLE sessions on university student performance. Hence, SOLE sessions can be used to enhance student independent learning and to improve their overall progress at the university.

Key words: students, university, performance, improvement, experiment, independent learning, homework.

Language: English

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Introduction

In this paper we attempt to determine the extent to which creating Self-Organized Learning Environment (SOLE) experiments for university students can improve completed home works in terms of quantity and quality. Current study is based on the previous experiment of \$1 million USD TED Prize 2013 Winner Sugatra Mitra [1-4]. That research was carried out only among children, while a new experiment tested its impact on university students' performance.

It is well known fact that children are more curious and enthusiastic in comparison to adults. However, students are young adults and not necessarily they have the same level of eagerness and motivation for learning. "Two-thirds of UK universities reported a rise in student dropouts over the past five years. The Times notes that overall, 6.3 percent of young full-time students dropped out during the first year in 2016-17, up from 5.7 percent in 2011-12" [2-6]. One of the main reason is large

number of students who lack the academic skills required for a degree (ibid).

Blumberg [4] states that in traditional teacher-centred method the emphasis on what instructors do often leads to students being passive learners. Afterwards, teachers and employers criticize students or graduates for inability to apply prior knowledge and cannot learn independently (ibid). As a result of this type of concerns many scholars [1-5] made significant change as a progress from an "Instruction Paradigm" in which universities gave instruction to "transfer knowledge from faculty to students" to a "Learning Paradigm" in which universities create learning through "student discovery and construction of knowledge". Collins and O'Brien [1-4] point out that "student-centred learning model places the student (learner) in the centre of the learning process". The teacher provides students with chance to learn on their own and from one another and coaches them in the prerequisite skills. This approach includes such techniques as encouraging students to

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participate in simulations and role plays, and exercising “self-paced and/or cooperative (team-based) learning”. Numerous scholars made large numbers of researches on self-directed learning or self-organized learning, do-it-yourself learning and new-fashioned learning. Consequently, it was decided to concentrate on one of the well-known researches by Sugata Mitra, Indian professor of Educational Technology at Newcastle University [1-5]. Mitra and his colleagues carried out experiments among groups of children (8-13 year-olds) for over 13 years on the nature of self-organized learning, its extent, how it works and the function of adults in motivating it. His creative and courageous hard work towards developing learning process for children around the globe brought him the first- ever \$1 million USD TED Prize award in 2013 [2-6]]. TED is a nonprofit organization and concentrates on Technology, Entertainment, and Design. The TED Prize is annually awarded to an extraordinary person with an innovative and strong ambition to make evolution for worldwide change [1-6].

In 1999, Mitra and his colleagues run “The hole in the wall” experiment, they dug a hole in a wall bordering a slum in New Delhi. The scientists installed an Internet-connected PC with English operation system and keyboard, and left it there with a hidden camera [1-5]. Then they walked away. In a couple of weeks, they saw children from the slum who have never had a computer and do not speak English, started playing computer games, learning English, browsing Internet, and then teaching each other. After series of experiments in different countries such as India, UK and Australia, the researcher discovered that children can learn and teach others by using a computer [1-2]. He called this process as a Self-Organized Learning Environment (SOLE). Besides, to creating a virtual school in a cloud using funds of TED Prize, Mitra invited academic practitioners worldwide to build their own miniature self-organized learning environments (SOLEs) and share their discoveries as a feedback on a special webpage [3-8].

The main limitation of this research was age restriction and the fact that the experiment was carried out only among children. As an educator at the university, it was decided to organize SOLE experiment for university students and give them a chance to learn on their own. Ideally, students are supposed to work independently on their course works, conduct exam preparation and complete their home tasks without lecturer assistance. Therefore, the aim of experiment was prepare them for independent learning. Moreover, Mitra et al. [4-8] states that SOLE offers more opportunities not only for independent thinking, but also collaboration of students. Hence, it was assumed that students will be encouraged to work more independently on homework of a certain seminar

after the class and assist each other to complete a home task.

The research question: Does creating Self-Organized Learning Environment (SOLE) in seminars improve the level of completed home works in terms of quantity and quality among university students?

Hence, during the experiment I will check two hypotheses:

- H1: More students after SOLE sessions will accomplish homework in comparison to traditional tutorials

- H2: Completed home works by students will be higher quality after SOLE

Methods. The action research involved four seminar groups of almost 100 foundation students of Westminster International University in Tashkent (WIUT) during two hour seminars of “Business and its Environment” module. Two control groups and two experimental groups with 50 students each had traditional and SOLE tutorials correspondingly. The purpose was to compare the difference of homework completion results that was given during the seminars.

Both types of groups had the same topic of “Business Initiation” for seminars, but lesson plans were slightly different. Students had sessions in different types of rooms: control groups were in seminar rooms, while experimental groups had their classes in computer labs. In the first hour both groups had lecture recap, then they were asked to create a Fantasy Company in small groups, think of unique features of new business and divide managerial positions among members of a group. However, in the second hour students of control group received additional information to complete the task on Intellectual Property Protection (IPP). Each subgroup received handout with description of one type of IPP (Patent, Trade Mark, Registered Design and Copyright). Students were responsible for reading and discussing the given information within their group and then explain it to students from other subgroups in cross-grouping activity [1-5].

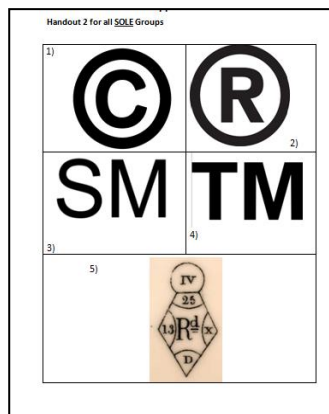
Alternatively, experimental groups had SOLE sessions to cover protection of Intellectual property in business. Moreover, students watched 3 minute video of Sugata Mitra on this SOLE experiment, to get general idea at the beginning. In fact, the experimental session was based on special “SOLE toolkit” by Mitra et al. (2010) that describes a plan of how to organize these sessions step by step. The toolkit presents all necessary materials and appropriate timing for each stage of the session. Also, it explains how to make a good question and how to handle common problems of the sessions. According to this toolkit there were three main components: Question, Investigation and Review.

In the Question stage all students were shown 5 pictures as a trigger question on Intellectual property

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Table 1.



The question was:

- What do these symbols mean?
- Which of the symbols will be applicable for your new business? Why?

Mitra (2013a) states that “the most effective educators are great witnesses, supporters, and structure-providers, but not answer-suppliers”. Thus, students were not given text for reading as additional information, but for *Investigation* of this question students were provided Internet, which may help them answer almost any question. Moreover, according to SOLE toolkit there are the basic parameters for students. Thus, they can

- See what other groups are doing and take that information to their own group.
- Move around freely.
- Change groups at any time.
- Talk with each other and discuss with other groups.
- Tell their friends what they learned after the SOLE (Mitra, 2010).

Obviously, these features of SOLE may cause difficulties for an educator to manage students’ behavior. Therefore, one student from each subgroup was nominated as a “Helper”. Before moving to investigation part of the session, helpers were given tags. They were instructed to manage group behavior and keep time for answer searching [6-9].

After question investigation and finding appropriate answers, SOLE students were invited to present their Fantasy Companies and appropriate Intellectual Property protection methods to *review* their work. Correspondingly, students of control group also presented their brand new businesses. At the end of both types of seminars students were given homework, “Manager’s Task”. The task was quite straight forward which required developing Manager’s Departmental Objectives and Mission of the Company for its whole life (should be the same for all departments). For the purpose of homework a special Facebook group “I’m a Manager” was created.

Students were supposed to join this group and post their completed homework within one week. Moreover, pictures of all students during seminars were uploaded to this facebook page. That was another motivation for students to join the group and complete the given task. In this way students had a chance to see each other’s homework and receive immediate feedback and comments both from a teacher and other students [10-14].

As a result, students who joined group page “I’m a Manager” to complete the given task started becoming “friends” with each other on Facebook and sending me their “friend requests”. Moreover, this page created learning community that contained continuous teacher facilitation, opportunity for peer learning and regular process of sharing of additional information on business issues and obviously some “fun stuff” as well.

Results. At this moment we would like to move on description of outcomes of the action research. According to statistics facebook.com, most of students (82%) joined the group “I’m a Manager” and were quite active during a week. However, not all of the members of the group did their home tasks. Further, I will analyze findings of the research in more details in order to see answers for two hypotheses of my action research.

Table 2 demonstrates that there were 4 foundation groups; two of them had traditional tutorials, while other two had SOLE tutorials. Besides, number of students in each group and participation rate in doing homework was different. Therefore, I decided to label these four groups for research purposes. In particular,

- SOLE A –the group which had SOLE tutorial and was *active* to complete homework
- SOLE P–the group which had SOLE tutorial and was *passive* to complete homework
- Trad A–the group which had traditional tutorial and was *active* to complete homework

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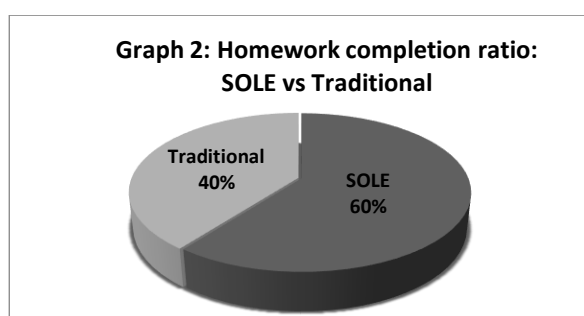
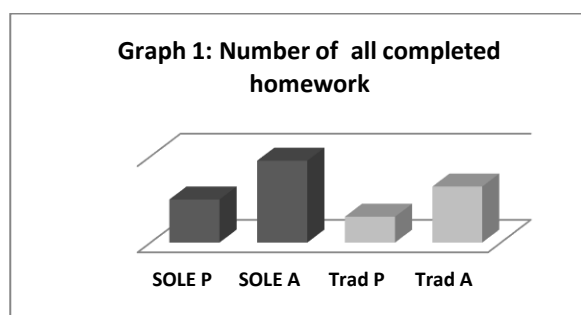
- Trad P—the group which had traditional tutorial and was *passive* to complete homework

Table 2: Statistics on homework completion by students

Foundation Groups	SOLE Seminars		Traditional Seminars		TOTAL
	Group 1	Group 2	Group 3	Group 4	
All students in one group	26	26	23	22	75
Students did homework	19	10	13	6	40
Group labels for the research	SOLE A	SOLE P	Trad A	Trad P	

According to results demonstrated in Table 2, Hypothesis 1 was proved and more students after SOLE sessions accomplished homework in comparison to traditional tutorials. This fact will be

visually presented in several graphs further. Graph 1 illustrates that students from groups SOLE A and SOLE P together completed 29 home tasks, while groups Trad A and Trad P did only 19 works in total.



Graph 2 shows these numbers in percentage.

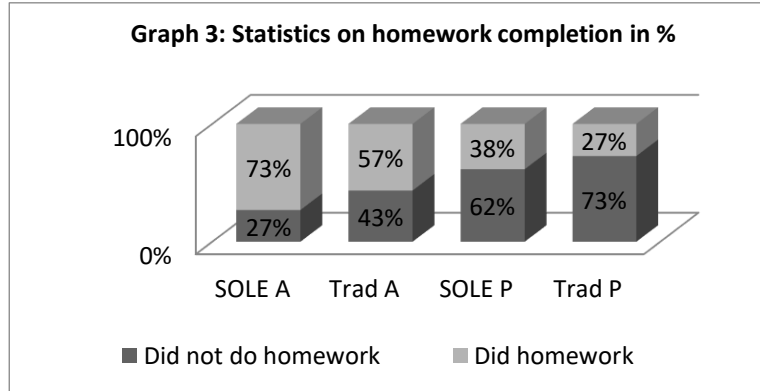
It is clear from the Graph 2 that 60% of all completed home tasks were done by students who had SOLE session and 40% of works belong to students who had traditional tutorials.

Nevertheless, number of students in SOLE sessions was more than in traditional tutorials, due to the fact that the groups were initially divided

unequally by administration of WIUT. Therefore, statistics in percentage for each group separately was given in Graph 3. This graph compares active and passive groups of both sessions. Hence, it can be seen that 73% of SOLE A students on the contrary to 57% of Trad A students accomplished the task. Besides, more students (38%) of SOLE P did homework in comparison to Trad P students (27%).

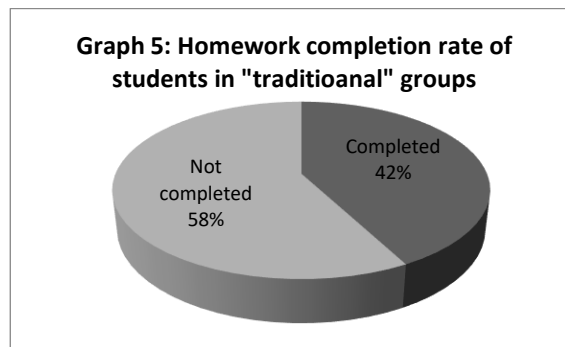
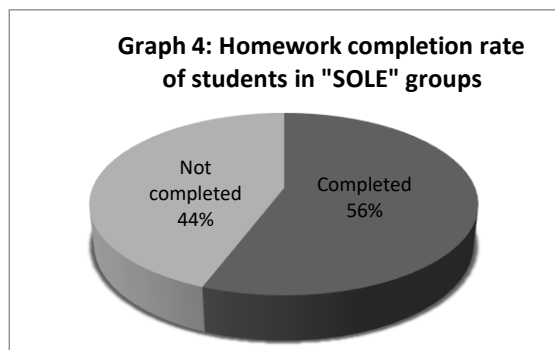
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Consequently, more than half (56%) of all students who attended SOLE sessions completed the home task (Graph 4), on the contrary to 42% of those

who had traditional seminars (Graph 5). As a result, Hypothesis 1 is proven one more time.



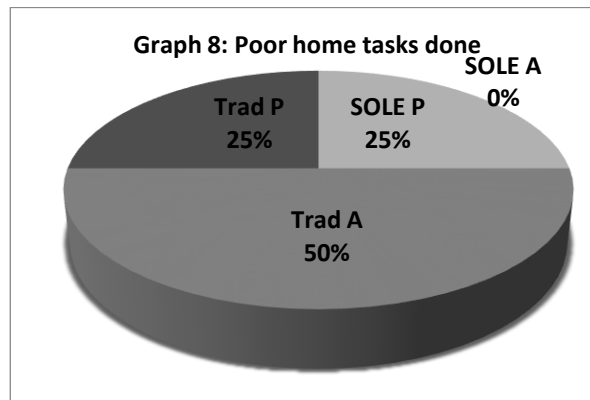
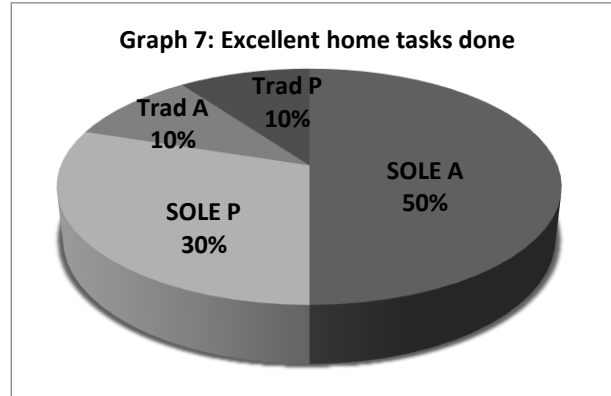
As for Hypothesis 2, students of SOLE groups were supposed to do higher quality home tasks in comparison to Trad groups [5]. All posted home works on the Facebook group page were looked through. Every student received individual feedback. At the end of assessment process the best work of the week was announced.

In general, the works were assessed as excellent, good and poor. Graph 6 presents quality of completed

works by all groups. As it can be seen from this graph 8 versus 2 excellent works were done by SOLE and Trad groups respectively. Moreover, SOLE A group did not post any poor work, while 2 works of Trad A was completely irrelevant. As for passive groups both SOLE P and Trad P had one poor work each. As a result, 80% of all excellent works were posted by SOLE groups and the other 20% were completed by Trad groups (Graph 7).

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On the other hand, Graph 8 demonstrates that the majority (75%) of poor works was done by Trad groups and only one student (25%) of SOLE P posted incomplete answers. Meanwhile, none of SOLE A students submitted poor works [9-14]. Thus, this outcomes of the research proved Hypothesis 2, which stated that completed homework by students were higher quality after SOLE sessions in comparison to traditional tutorials. Moreover, by proving both hypotheses the answer for the whole research question was found out. Hence, I came to conclusion that Self-Organized Learning Environment (SOLE) in tutorials improve the level of completed home works by CIFS students at WIUT.

Conclusion: The main objective to run the research was to discover whether SOLE improve level of homework completion by students both in terms of quantity and quality. The effectiveness of two types of sessions such as traditional and SOLE was tested in the research. The main outcome of the experiment was the fact that students of SOLE groups, who had more freedom to investigate a given task during a seminar, were more likely to accomplish their home works. SOLE students were slightly more likely to complete academic tasks on their own with better quality than students studying in traditional seminars. We assume that SOLE session increased their motivation to learn further about the topic. Quite the opposite situation occurred with students who received additional information to complete the task in traditional seminars; they were less active in doing their home

works. Moreover, my colleague gave a very positive feedback on my teaching after observing one of my traditional tutorials that served as a seminar for a control group. In particular, feedback contained such comments: “Excellent explanation of instructions, application of inclusive methods, and very good classroom management”. Nevertheless, regardless of lots of efforts for preparation and running that traditional seminar, fewer students completed their homework in comparison to SOLE tutorials. Perhaps, I was “spoon feeding” my students by doing my “best” in traditional sessions.

The results of the current study filled out the gap in knowledge. The previous researches by Mitra and Crawley checked the extent to which Self-Organized Learning Environment positively influences to learning process of children. Now this new research demonstrated that not only children, but also university students can benefit from participation in SOLE sessions. Organizing these sessions may enhance independent learning and as a result may improve overall student performance. This action research assisted to reconsider and reflect on teaching practices in order to result effective learning. Our study discovered numerous valuable findings on self-directed learning and expanded understanding of what students can learn on their own. In the SOLE sessions students took ownership of their learning experience and improved their problem-solving skills.

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Practitioners can upgrade their teaching methods in universities via using the following recommendations:

- Students can be allowed to choose topics from relevant subject area to investigate in some of the teaching weeks of the semester
- Organizing coursework completion sessions for students via Self-Organised Learning Environment method. This would be particularly valuable for group works.
- Organizing SOLE sessions during seminars by allowing usage of smart phones and laptops
- Arranging exam preparation sessions, where students can learn from each other and internet
- Organizing “SOLE Spaces” for students with WIFI connection

Findings are evident, but there are certain limitations in this research. This study was limited in

time. Students experienced one SOLE research and results can be influenced by the increased number of experimental sessions. Therefore, further research can examine impact of constant arrangement of SOLE sessions on overall student performance and their total marks throughout a semester and academic year.

To sum up, the research results illustrate that teachers have to give students more space to work “independently together”. This is especially important issue at foundation level, so that students practice self-organized learning from the first year at the university. Despite of many benefits of traditional teaching methods, new teaching techniques need to be applied as well. As Heraclitus said “The only constant in life is change”. Hence, every teacher has to be reflective practitioner in their long way to professional excellence. As a result, we will demonstrate the best example of being lifelong learner for our students.

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