



THE ROAD TO INNOVATIVE SOLUTIONS TO PALESTINE'S  
CHALLENGING EDUCATION PROBLEMS

THE PALESTINIAN NATIONAL

**LEARNING OBJECTS BANK**



CCE  
CENTER FOR CONTINUING EDUCATION  
BIRZEIT UNIVERSITY

# SUMMARY

The National **LEARNING OBJECTS** Bank (xLOBs) is an **innovative, effective** and **affordable** model in educational reform. It is designed to mainstream modern educational paradigms into the existing educational system to **produce learning outcomes needed by our children** to meet the challenges and capitalize on the opportunities of the 21<sup>st</sup> century.

xLOBs provide students with a rich diversity of learning objects that match different learning cognitive preferences. They are built to stimulate active learning, provide innovative learning spaces, support deep learning, and develop soft skills such as self-learning critical thinking, creativity, innovation and a wide range of attitudes required by students and citizens of the 21<sup>st</sup> century. The strength of xLOBs is that they work in a complementary manner with the existing educational system - remaining in line with the text book outlines required by the formal educational system - however offering teachers entirely different learning strategies to achieve the “high-quality” outcomes everyone is so keen to achieve.

## THE NEED

The Palestinian educational system is in a dire need for reform<sup>1</sup>. At a time, when Palestinians need a productive force driven by highly qualified professionals, thinkers, innovators, business people, politicians, and leaders, the system in charge of producing this human capital is grossly under-performing<sup>2</sup>. There is a pressing need for outside-the-box solutions and models that can bring about a reform process that works effectively and affordably<sup>3</sup>. This is what xLOBs came to achieve.

## HOW xLOBs WORK – TWO EXAMPLES

### Electric Power Unit:

- Traditional Approach: The teacher presents the subject by writing abstract formulas, symbols and units on the board or presents with a projector that only a handful of students relate to. Most students are bored, disengaged, and end-up dealing with power as numbers in strange formulas and symbols.
- xLOBs: Teacher introduces the subject through an electricity bill. Students are asked to analyze the bill, survey their electric appliances and electricity usage at home, predict the future consumption, propose ways of cutting down on usage, discuss impact on the environment, etc. They go beyond electricity and discuss items on the bill like VAT and the value of the bill and its suitability for a typical Palestinian family, etc.

### Digestive System Unit:

- Traditional Approach: The teacher lists the elements of the digestive system and all the complex processes taking place talking non-stop in a monotone.
- xLOBs: The lesson begins with a letter from a Palestinian hunger striker in an Israeli prison who has been on strike for over 60 days. Students discuss what happens to the hunger striker physiologically and how does the digestive system react to it, and what do hunger strikers need to get to survive, and what diet to follow when he breaks his strike and why? This discussion cannot leave any Palestinian student un-engaged.



# LEARNING OBJECTS BANK CONCEPT

## STRUCTURE OF AN xLOB

The Learning Objects (xLOBs) consists of many ingredients, which, when combined, produce an effective educational process. These include:

- i. **Learning resources** that can be delivered physically in the classroom or across the network
- ii. **Learning activities** and applications of the knowledge in contexts that are meaningful and stimulating to students (learning activities are where learners internalize and reinforce what they learn); and
- iii. **Instructional strategies** that glue and integrate the different elements of the learning object together. These strategies are designed to stimulate active learning, provide innovative learning spaces, support deep learning, and develop soft skills such as critical thinking, creativity, innovation and a wide range of attitudes required by students and citizens of the 21st century.

xLOBs are fully aligned with the requirements of the Palestinian curriculum. For each unit in the Palestinian official textbooks, xLOBs are developed to match the objectives of this unit: our xLOBs achieve the same learning objectives set by the Ministry of Education often using entirely different learning strategies and resources (that are project based, deploy active learning, team work, self-learning, creativity, art, etc.).

The other important characteristic of xLOBs is that they are a powerful and practical resource for teachers. Instead of putting thousands of teachers through an extensive re-training process to qualify them to independently design and lead stimulating and motivating education (which is the only option within the existing classical educational system - and which is way beyond the financial means of the educational establishment), in our model, teachers receive limited training and orientation on how to deploy and use xLOBs in their teaching effectively. Schools.21 is a program by CCE at Birzeit University designed to provide an educational reform model for the existing and underperforming schooling system in Palestine. Finally, xLOBs automatically align with almost all educational quality development interventions being implemented. They provide the means for

teachers to apply the educational practices typically covered in their programs and a means to effect a positive change in the learning outcomes immediately.

## xLOB DEVELOPMENT

The process of xLOBs design and development is indeed resource intensive and involved. It requires teams of experienced instructional designers, school teachers, education and subject-matter researchers and experts; and multimedia and IT specialists supporting the development of specific digital materials, animations, and other needed IT resources. The development process involves training, mentorship, teamwork, peer, expert and student reviews, reflections, research and redesigns. This is what it takes to produce high quality xLOBs that are stimulating and motivating to the students.

Once developed, xLOBs become a national resource used by tens and possibly hundreds of thousands of learners. The benefit to cost ratio for xLOBs is enormous.

## xLOBs IMPLEMENTATION RESEARCH

To date, we have completed a large-scale deployment of xLOBs in Science grades 8 and 9 and Math grade 8 in approximately 50 public, private and UNRWA schools, and conducted an extensive research on the implementation<sup>4</sup>. The research found that students who learned with xLOBs exhibited significant improvements in conceptual knowledge, analysis, procedural knowledge, problem solving, expression, etc. than students who did not use xLOBs.

Most teachers who used xLOBs in the classrooms had significantly better classroom practices and stressed that teaching with xLOBs was an effective and highly efficient learning experience for the teachers themselves. Both students and teachers who used xLOBs in the classroom expressed increased interest in the learning and educational process and commonly described it as "being fun to learn this way"

## WHAT SETS THE LEARNING OBJECTS BANK APART?

- xLOBs do not only talk about “educational best-practices”, they provide a process – a tool that makes **these practices work** within the Palestinian context in a scalable manner.
- While xLOBs clearly acknowledge the limitations of the Palestinian curriculum, they supplement the curriculum addressing its shortcomings in a very **creative manner** while remaining fully aligned with requirements of the ministry of education.
- Extensive professional development is only required for a small percentage of innovative and motivated teachers – *the composers* - that will design and develop xLOBs and make them available for all. The greatest majority of teachers **only require limited orientation** to use existing xLOBs effectively and achieve the learning paradigm shift needed in the classrooms. This extremely powerful diversion from the classical approach (that requires extensive individual development for all teachers to achieve the paradigm shift) provides the capability to **achieve educational reform affordably, practically and faster than almost all locally available options**.
- Teacher training for xLOBs “Designer Teachers” is not an end by itself. It is part of a process integrating the entire learning and teaching life-cycle: curriculum design, research and development, piloting, multiple reviews (by peers, students, specialists, etc.), and leads to products (xLOBs) published in a national knowledge bank which they and teachers from anywhere use in their classrooms.
- xLOBs is a knowledge bank. It is designed to capture innovations and any educational knowledge being built into a constantly growing national bank that can be used, re-used and built upon indefinitely (as opposed to typical programs that produce one-time outputs that end with the end of their funding cycles).
- xLOBs integrate seamlessly with educational quality improvement initiatives as they provide models integrated in the curriculum which reflect the teaching/ learning best-practices that these initiatives typically promote.

- xLOBs are designed to be a Palestinian regional show-case as scalability is built-in within xLOBs. Learning objects built for once educational system of one country can be rearranged and very quickly “re-packaged” to work for another educational system

### STUDENT QUOTES

- *“xLOBs grab our attention and enable information to enter our brains through deduction”*

Ahmad, 8th grade student

- *“The difference between the traditional method and the xLOB method is like the difference between heaven and earth. Usually the teacher tries to stuff our heads full of information, to the point of explosion. xLobs challenge our brains to really think and to retain the information we learn.”*

Basil, 9th grade student

- *“In a regular class, one doesn’t need to use her brain, and lessons are learnt by indoctrination or by rote. Using xLOBs allowed us to think and discuss issues.”*

Haneen, 9th grade student

- *“In a regular class, I do not interact because I simply get bored. Learning with xLOBs has encouraged me to interact since I have a better understanding of the lessons.”*

Hussein, 9th grade student

### WHO IS BEHIND THE PROJECT?

CCE is an outreach arm of Birzeit University. The center is recognized as regional leader in institutional capacity building and reform. CCE has implemented a wide range of pioneering development projects in education, organizational development, community empowerment, and well-being. CCE established the **Unit for Learning Innovation** in 2002 to design and develop the building blocks for a “Palestinian-grown” school-reform model designed to work within the parameters and constraints of the local context. We named this model Schools.21. One of the main building blocks in our model is the “extended Learning Objects Bank” (xLOBs).



## SCALING UP – ECONOMIES OF SCALE

The research results clearly verified the effectiveness of the model. CCE is currently in the process of scaling xLOBs both horizontally to cover all school subjects, and vertically to cover grades 1 through 12. The process of xLOBs design and development is indeed resource intensive and involved. It consists of putting together teams of master trainers and experts that have engineered and developed the xLOBs model; instructional designers that have specific experience in designing and developing modern curriculum; school teachers; researchers and subject experts; and multimedia and IT specialists supporting the development of specific digital materials, animations, and other needed IT resources. The development process involves training, mentorship, teamwork, peer, expert and student reviews, reflections, research and redesigns. This process ensures high quality of xLOBs and ensures their effectiveness with students. Once developed, xLOBs become a national resource available for unlimited use, re-use and development.

### Economies of scale

Every year, the average number of Palestinian students studying a subject (e.g. science or languages) is 100,000 students. In 5 years, half a million students learn the same subject for the same grade. Assuming that only 30% of the students learn with xLOBs, this means that the investment cost in the development of xLOBs for each grade is a fraction of a dollar per student. This means that for a negligible investment, enormous positive changes in the learning outcomes for our children can be made resulting in significant long-term impact on the students and the society.

## NATIONAL PROJECT – NATIONAL OWNERSHIP

Birzeit University views xLOBs as one of the most strategic national projects today as it provides a proven model that can achieve educational reform affordably and in a timely manner. To roll out xLOBs at a national scale requires a substantial initial investment in the development of xLOBs for all subjects and all grades and in providing orientation to teachers. We are particularly seeking Palestinian partners from the private sector, NGOs, international community, individuals, parents, teachers, etc. By engaging the community in xLOBs, we obtain national buy-in and national ownership. This is what it would take to achieve a reform process that would work

## PLEASE JOIN US

If your company, institution or foundation or you individually are interested to become a partner contributing to Palestinian educational development through xLOBs, please contact:

### CONTACT INFORMATION:

CENTER FOR CONTINUING EDUCATION  
EMAIL: CCE@BIRZEIT.EDU,  
HTTP:\\CCEWEB.BIRZEIT.EDU  
TEL: +970 (OR 972) 2-295-6229



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### Notes:

1. *It is a system based on memorization of facts and figures and formulas, and does not develop skills and attitudes such as critical thinking, problem solving, creativity, self, learning and others required of today's learners. Most students describe the system as boring, non-stimulating, and not relevant to their life or future. Of every 100 children that enter the basic educational system less than 50 successfully complete it. watch: <http://www.youtube.com/watch?v=f0qTHJKapSQ>*
2. *According to international exams our children are amongst the lowest performers in the world in problem solving, higher order thinking and innovation and these are the skills which are needed today for our children to survive – let alone excel in today's over populated highly risky world*
3. *For example, in the classical model, educational reform will necessarily require an extremely extensive qualification process for over 60,000 teachers. It will also require a major process of curriculum re-development. The financial and technical implications for this are absolutely beyond the available national mean*
4. *The research was conducted in partnership with the Swiss Center for Innovations in Learning (SCIL) at St. Gallen University in Switzerland*

