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BRIDGING THE GAP IN THE CURRICULUM THROUGH PROJECT-BASED LEARNING – A SAMPLE PROJECT

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SUMMARY

This paper guides the reader through a sample electronic project designed for Grade 11 students learning English as a second language. This project serves as a model for my Master of Education student-teachers. The project material is included in a template designed using Microsoft PowerPoint. While my student-teachers[1] are completing the template, they acquire advanced PowerPoint skills. The template includes an overview of the project, the teaching resources required for the project, the evaluation and assessment material and the contact information. In addition, any special notes on student interaction or project planning is included.

Designing their projects, students use the material they have taken in the educational technology course and educational concepts they studied in the course of their studies. Therefore, the units include programs, software, applications, links to websites and media. Further, the project incorporates tasks that require higher order thinking where students construct their own knowledge, address different learning styles and multiple intelligences, meet the needs of the 21-century learner, integrate technology, and vary the modes of classroom interaction during the different project tasks.

Further, the finished projects are uploaded to Google Drive and shared with other teachers. Teachers with links to projects can download and modify them to suit their teaching needs, classrooms and students. The aim of this is to help students be part of the professional learning community of teachers by contributing to it.

Although the project at hand is aimed for Grade 11, it gives implications for teaching any subject at any level.

Keywords: Project-based learning, technology, education, interdisciplinarity.

1 Student-teachers I refer to in this paper are my students at graduate level at the Lebanese International University whom I teach a course titled "Educational Media and Technology". They are student-teachers because they are being prepared to be teachers after they graduate.

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تقدِّم هذه الورقة الخطوات العملية لمشروع إلكتروني تم تطبيقه على تلاميذ الصف الثانوي الثاني (الحادي عشر) الذين يدرسون اللغة الإنكليزية كلغة أجنبية حسب المنهج اللبناني في ثانوية رسمية لبنانية، وذلك كنموذج تمَّ درسه في صف الدراسات العليا في مادة تكنولوجيا التعليم في الجامعة اللبنانية الدولية.

صُمِّمت مادة المشروع في قالب منظَّم باستخدام برنامج مايكروسوفت باوربوينت، لإكساب المتعلمين مهارات متطورة في استخدام برنامج الباوربوينت عند تصميمهم مشاريعهم.

يحتوي القالب على لمحة عن المشروع، الموارد التعليمية المطلوبة، مواد التقويم والتقييم، ومعلومات عن كيفية التواصل مع معدِّ المشروع، إضافة إلى معلومات حول تفاعل التلاميذ في كل مرحلة من مراحل التنفيذ وحول كيفية التخطيط للنشاطات.

يعتمد المتعلمون خلال تصميم مشاريعهم على مفاهيم تربوية درسوها في مادة تكنولوجيا التعليم وفي مقررات دراسية أخرى. ولذلك يحتوي كل مشروع على برامج، تطبيقات، روابط إلى مواقع ووسائط إلكترونية، كما يحتوي على مهام تتطلب مهارات تفكير عليا تتيح للمتعلمين بناء معارفهم بأنفسهم، وتلبي أساليب التعلُّم المتنوِّعة والذكاءات المتعدِّدة، وتلبي حاجات المتعلمين في القرن الواحد والعشرين، وتتيح إدارج التكنولوجيا في التعليم، وتساهم في تحقيق التنوع في التفاعل الصفي خلال القيام بالمهام المطلوبة.

تُحمَّل المشاريع المصمَّمة على Google Drive، وتُشارَك مع معلمين آخرين بحيث يمكنهم تنزيل المشاريع والتعديل عليها لتتناسب مع حاجات تلاميذهم ومناهجهم. والهدف من كل ذلك أن يصبح مصمِّم المشروع جزءاً من المجتمع التعلُّمي المهني للمعلمين، ومساهماً في إثراء هذا المجتمع.

ورغم أنَّ المشروع النموذج المقدَّم في هذه الورقة يستهدف تلاميذ الصف الحادي عشر، إلا أنه يقدم إيحاءات لتعليم أي مستوى وأي مادة.

OBJECTIVES

This paper aims at presenting the underlying concepts for constructing a project for students. Then it presents the reasons why the project was constructed and finally, it ends with a description of a sample project to serve teaching Grade 11 who learn English as a second language.

UNDERLYING CONCEPTS FOR PROJECT CONSTRUCTION

Project based learning

The Buck Institute for Education BIE defines project-based learning as a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge (Buck Institute for Education, 2018). Project-based learning serves to increase student engagement and help them develop deeper understanding where they learn by doing and applying ideas (Krajcik & Blumenfeld, 2006). This is

reflected in the fact that while students work on their projects, they use formal knowledge in authentic and complex settings (Barron, 1998) and are required to construct their own knowledge and understandings. Moreover, students, after implementing their projects, usually come up with an outcome, a product. This product becomes a source of pride and accomplishment for the student (Barron, 1998). This is achieved by approaching learning through teaching a multitude of strategies (Bell, 2010). Today, with the prevalence of technology, it becomes essential to integrate twenty-first century skills in designing leaning tasks for students.

Twenty-First Century Learning

Teaching in the 21st century requires that teachers provide learning tasks for students that are compatible with their needs which will allow them to be functional citizens in life outside school. It is mandatory for the citizen of this century to be proficient at communicating, negotiating and collaborating which are key requirements for project-based learning (Bell, 2010). Moreover, the student of today must master critical thinking and creativity to be eligible to participate in today's global community (Binkley, et al., 2012).

Integrating technology

"The universe is anything but static", yet curricula and educational systems deal with teaching as though it were, and thus they "continue to endure features wherever we are in the world," (Beare & Slaughter, 1993). Students are living in a world of multimedia and instant communication where they have global access with absolutely no borders. Therefore, it become imperative to teach those same students through integrating computers and other devices, and internet searches and tools to help them acquire their new learnings of knowledge and skills. Although technology integration has a lot of barriers (Bitner & Binter, 2002; Foon Hew & Brush, 2007) as a review of past empirical studies has shown (Foon Hew & Brush, 2007), educators have to be sensible to choose what suits their specific settings and students and their school resources.

Reflection

Reflection is a very powerful tool that facilitates student learning. It can be attained through providing feedback whether oral or written that should be embedded in the designing of academic courses (Quinton & Smallbone, 2010). Reflection allows students to evaluate their learnings and develop self-evaluation skills, which are necessary for taking effective action (Sadler, 1989). A reflective student, through self-questioning, is able to practice and demonstrate self-knowledge (Quinton & Smallbone, 2010). This in turn allows students to discover their inner strengths which becomes basis for action and thus, growth (Korthagen & Vasalos, 2005). Reflective practice is best enhanced by collaboration (Wallace, 2001; Chalies, Bertone, Flavier, & Durand, 2008).

Collaboration

Significant improvement in student learning is observed when students collaborate and are given tasks that require peer communication to be completed. (Goodman, Soller, Linton, & Gaimari, 1997). Collaboration is an important factor in intellectual achievement (Willaims & Sheridan, 2006) and a

means of learning that motivates learning beyond the children's own potential. The power of collaboration lies in that it places students in supportive environments where they feel safe in low-tension spheres placing each student responsible for the success of the group.

Student Autonomy

Autonomy should be a goal of teaching as it reflects good teaching (Farhat, 2018). It is the responsibility of the educator to structure a learning environment that nurtures autonomous behaviour (Fazey & Fazey, 2001). While individuals possess the potential to be autonomous, they will not demonstrate autonomy unless given the opportunities (Fazey & Fazey, 2001). This gives us implications for the classroom setting; teachers need to construct learning projects that permit students to exercise their autonomy rather than merely offering them tightly prescribed and controlled tasks as the case is often when merely relying on the school textbook and learning is not extended beyond the school classroom.

WHY PROJECT-BASED LEARNING

The Lebanese English Language Curriculum

the Lebanese national curriculum has not been modified since its last reform in 1999 which means that today's student is learning knowledge and skills that curriculum designers and educators twenty years ago thought to be necessary and sufficient. Further, the teaching methods, resources and assessment means of the late twentieth century are still prevailing in the curricula being implemented today. This is taking place while educators preach integrating technology and teaching for the twenty first century and beyond.

Public school teachers, who had long longed for a change of their outdated textbooks and had high expectations of the educational reform, eagerly embraced the national Lebanese curriculum. Similarly, personnel in leadership positions in many private schools were hoping that they could replace their imported American and British curricula with the new home-made one, which would relieve them of the numerous problems that imported curricula had such as non-compatibility with the students' levels of foreign language and culture. Workshops and training sessions took place in both the private and the public sectors to prepare for implementing the new curriculum.

It wasn't long after the implementation of the new curricula that it became clear that it did not extend student thinking beyond application of new knowledge and rarely required students to analyze and hardly ever did students have to synthesize or evaluate[2]. This is undermining for students since they are not given opportunities to exercise their abilities and explore their potentials. In doing so, students would be wronged unless educators intervene and provide learning experiences that would allow them to be creative and evaluative and appoint them as the architects of their own learning rather than being passive recipients of knowledge.

Moreover, the Lebanese curriculum was developed at a time when many of the digital tools that are available today were hardly heard of or were non-existent. In a fast-developing technological world and with the availability of digital tools, many of which are free of charge if used for educational purposes,

2 Refer to Bloom's taxonomy of learning domains

and with the readiness of students to manipulate such tools with minimal efforts, it only makes sense to employ them in today's teaching. Such tools can enhance and facilitate learning outcomes.

Bridging the Gap Through Project-Based Learning

In an attempt to fill in the gap in the Lebanese curriculum by providing learning tasks that stretch the students' learning to higher levels than merely remembering/understanding and applying, teachers are advised by their supervisors to be *selective* when deciding on what to teach from their existing material, *adapt* it, *replace* what they don't find suitable and *supplement* it[3].

Project Construction and the Professional Learning Community

A teacher can never truly teach unless she is learning herself. A lamp can never light another flame unless it continues to burn its own flame. (Tagore, 1994)

It is one of life's great ironies: schools are in the business of teaching and learning, yet they are terrible at learning from each other. If they ever discover how to do this, their future is assured. – (Fullan, 2001)

Student teachers are encouraged to build their projects and share them with other teachers, thus contributing to the creation of a professional learning community. This can be achieved if a bank of projects is provided where teachers upload their work for sharing. Opportunities to access other's work, inquire about them and reflect on their use should be provided.

A professional learning community is described as one in which the individuals mutually enhance one another and their students' learning as well as the school development (Stoll, Bolam, Mcmahon, Wallace, & Thomas, 2006). Further, they work as teams. Such teams should produce extraordinary results because they combine intelligences of the varied individuals (Senge, 1994).

Crow, Hausman & Scribner (2002) constructed a model that depicts the professional learning community as one consisting of three concentric circles where the inner most circle consists of the relationships existing between teachers and children, the

3 Select, adapt, replace and supplement are referred to as SARSing" an acronym used among teachers and supervisors of English

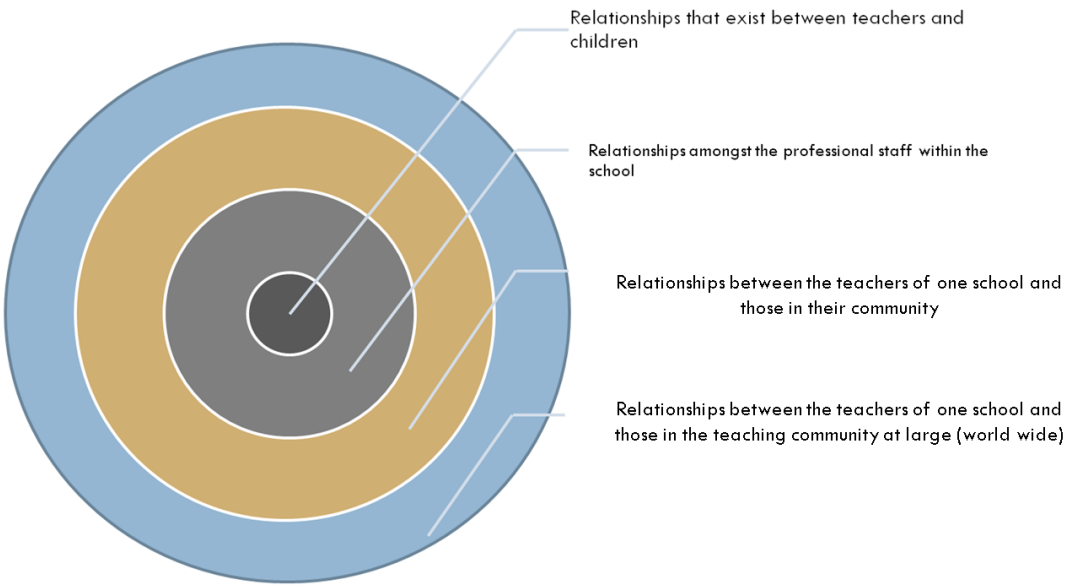

Figure 1: Four concentric circles of a professional learning community (Farhat 2011, based on Crow, Hausman & Scribner, 2002)

This allows teachers, as professionals, for:

- Building of a professional learning community
- Sharing of experiences and knowledge
- Engaging actively in the creation of their teaching material and tailoring it to the needs of their students

SAMPLE PROJECT

The Necklace

The Necklace is a sample learning project designed for Grade 11 students learning English as a second language. This project was implemented in Grade 11 and was used as a model for student-teachers who will design their own projects. In it, the classroom activities are oriented on Guy Massaupant's short story, *The Necklace* where students are required to watch an animation of the story, reflect on it, read the story text, analyze story elements and so forth, all of which are learning tasks that require remembering, understanding, applying and analyzing. After that, students enter the creativity domain where they have to engage in higher-order thinking by creating their own stories, turning them into movie scripts, planning for their movies, rehearsing and acting out their stories, and producing their own movies using available technological tools. Throughout the whole process, students are reflecting on their learning and constructing and evaluating their learning outcomes and those of their peers in addition to evaluating the learning tasks. Often, students work collaboratively in a way that each has an integral role that contributes to the final outcome.

The project is designed so as to include the following sections. Each section is designed on one or more PowerPoint presentation slide. The slides are hyperlinked through a navigation bar. Links to external resources are provided where necessary. (see Figures 2 and 3 for clarification): [4]

1. An **Overview** of the project which includes the subject area, level of students, duration of the project, learning outcomes, a short description and the software/websites/apps that will be used.
2. **Planning** of the project which includes documents that instruct on how to carry out the activities during the project and any special instructions to teachers on how to group students, manage time, prepare official documentations/consent letters…
3. The **Resources** required for the project. Here all the material, text, handouts, websites, applications, PowerPoints, links to online interactive tools, videos, sound files… are provided, each with a brief description on its use and components.
4. **Assessment** includes all necessary documents, online quizzes and other relevant links are provided.
5. **Students' Products** which includes sample student work to clarify to both teachers who will use the project and students what the final outcome might look like
6. **Legend** which explains any necessary terminology and acronyms used in the project
7. And finally, the **contact information** of the teacher who designed the project so that any teacher who would like to use it can contact its owner for clarification

The project can be uploaded to Google Sites or any other platform for education. However, I chose that it be designed on a PowerPoint presentation so that student teachers acquire Advanced Microsoft PowerPoint skills that they have not learned in Introduction to Computers course, a prerequisite course for all university students. Of the skills that students learn in the process of designing their projects: adding *hyperlinks* within a document and to websites, adding *action Buttons*, designing *master slides*, adding *notes*, *screen recording*, using *Classflow*, adding *comments*, accepting/rejecting them, *grouping objects* and/or textboxes, inserting *objects* (embedding MSFT documents/videos/PowerPoint presentations/Excel Sheets), viewing *gridlines* and *guides*…

In addition, students learn how to upload their finished projects to their Google Drive and change the share settings to suit their desires/needs, and then they can share their finished projects with other teachers in the professional community and can request for comments. Further, they try to apply their projects in their classes with their students. After that they upload the students' products to their projects so that they can provide sample models for teachers who wish to make use of the projects in their own classrooms.

4 A master template is provided so that the student-teachers can embed their project components into it. Modifications to the template highly encouraged.

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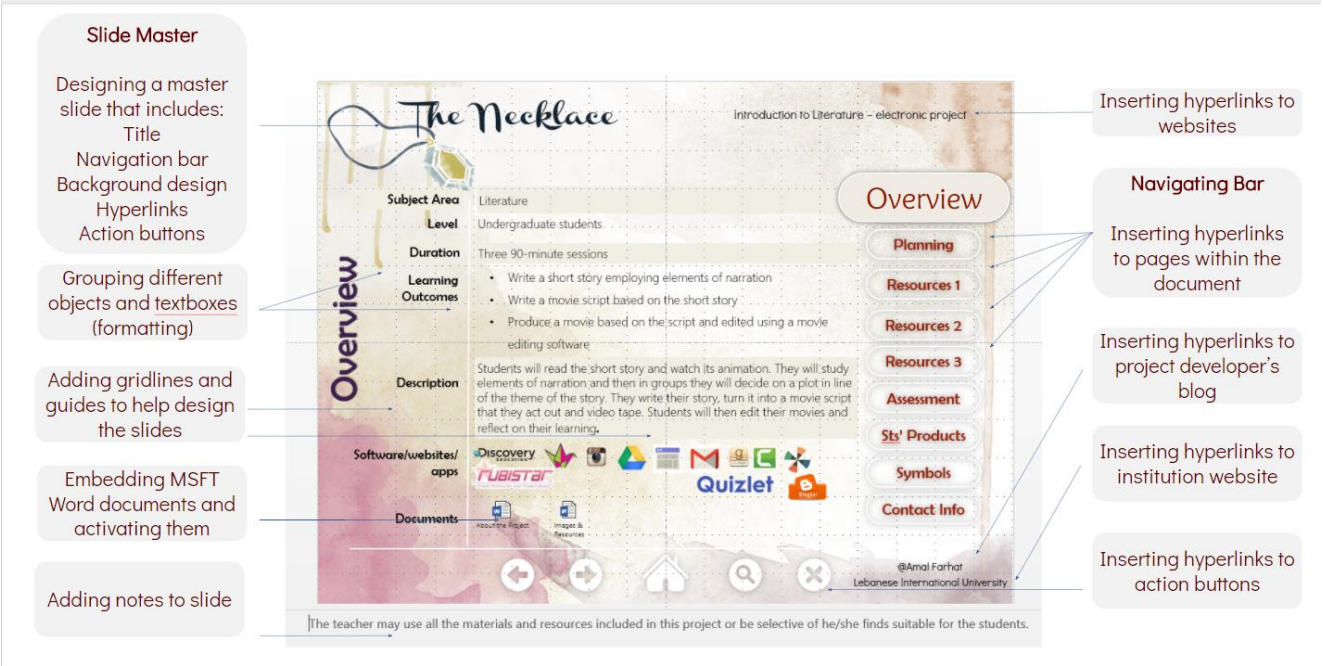

Figure 2: The Overview section of the project template with notes on its components

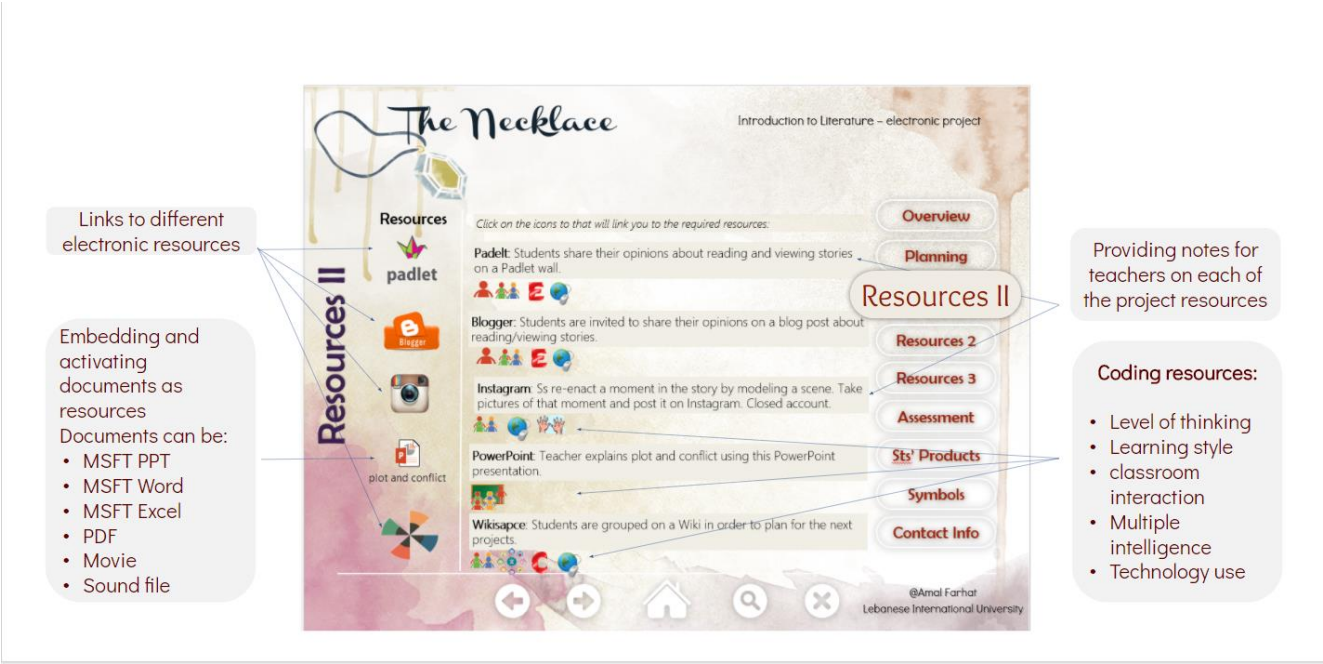

Figure 3: One of the Resources slides of the project template with notes on its components

CONCLUSION

The success of the project is measured by the quality of students' outcomes. When implementing this project in Grade 11, students were the makers of their own knowledge and practiced autonomy to reach their finished products. Creativity, high order thinking and collaboration were highly evident. In addition, students learned through different modalities and experienced several types of interaction. Utilizing technological tools was eminent in reaching their final products.

Moreover, student-teachers who had to design their own projects as a requirement for their Educational Media and Technology course, had to synthesize what they had learned in several courses at the school of education to design a unified project that can be used as a curricular supplement for grade school students.

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