PROJECT-BASED LEARNING

The Comprehensive Guide to Phenomenon-Based Learning:

Volume 1

Learning Acquisition vs. Language Learning

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FOREWORD

What if… our classrooms produced students who were masters of collaboration, inculcated with the work ethic of excellence, versed on global perspectives, critical thinkers with a top-quality toolbox of strategies, comfortable expressing themselves in public in different languages, and most importantly in this age of the Fourth Industrial Revolution, had the emotional intelligence and empathetic qualities that rendered them more qualified than machines? Phenomenon-based Learning has been proven to have the elements to help students to develop these very qualities.

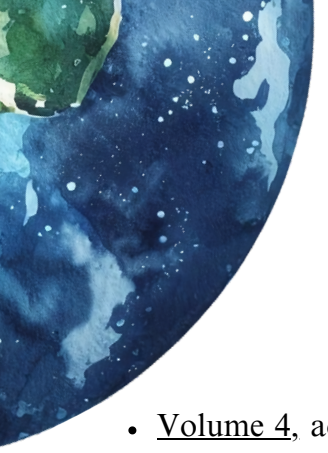
These are the types of questions that have the potential to propel educators into action. The 2020 World Bank report found that the implementation of new technology would destroy some five million jobs in industrialized countries by the year 2030; in other words, cyber technology would make two-thirds of all jobs in the neediest countries in the world redundant within a ten-year period.

The objective of this collection of volumes is to present and give you examples of the different elements included in a Phenomenon-Based Learning project, so that you can easily adapt them to your needs. Each chapter can be read in sequence or independently, depending on what element of the structure you are ready for:

- In Volume 1, we will examine how Phenomenon-Based Learning projects resolve the discordance between practices geared toward language learning and those geared toward simulating language acquisition. We will begin looking at scaffolding activities as our point of entry into mitigating the discrepancies between these two educational paradigms.

- In Volume 2, we will see how the Growth Mindset is intrinsic in Phenomenon-Based Learning projects. We embed the element included in this philosophy of learning in the planning of Mini-Lessons, which give a structure and direction to otherwise autonomous group work.

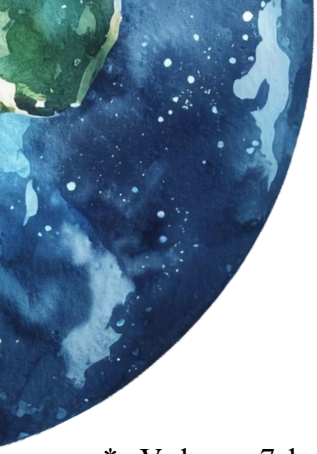
- In Volume 3, we will consider the importance of Critical Thinking in the classroom and how Enquiry Questions ignite higher-order level thinking as the essential first step of Phenomenon-Based Learning projects. Aside from igniting higher-order level thinking, we'll show how a strong Enquiry Question, coupled with the Ethic of Excellence are integral to fascinating and intriguing PhBL projects



- Volume 4, addresses the structures we can use to move our students from habitual Heuristic thinking to Higher-Level cognitive functioning. Six frameworks will be shown in the development of different PhBL projects, to demonstrate the power of this movement upwards in thinking.

- Volume 5 explores the Affective Domain, the fostering of the Ethic of Excellence, and how they both strengthen the blending of Multi-Cultural, Interdisciplinary and Class Management elements embedded in the Phenomenon-Based Learning structure. We will explore different formative assessments, thus filling out yet one more aspect of the PhBL rubric.

- Volume 6 delves into assessing PhBL projects, showing different forms we can use, and the rubric/checklist that have been found most advantageous to classrooms all over the world.



*· Volume 7 breaks down CLIL's 5C's and how attention we can give these five factors, raising our levels of consciousness about essential elements to include in PhBL projects that make them more relevant and instructional in this complicated, global world our students are moving into.

Each volume is accompanied by rubrics/checklists that will hopefully give you ideas on types of projects you can design in your own classroom. There are also scaffolding activities included in each volume, that will ideally give you an appreciation of the need to use such varied techniques as introductions for any new information your students are facing.

The hope of this book is to help you to gain an overall understanding of holistic learning through the Phenomenon-Based Learning structure.

Someone very important to me once said ‘knowledge is meant to be shared’. I hope you share your experiences, your successes and your challenges with others because by doing so, you become a more influential educator and those you support become more knowledgeable educators as well.

Changing the paradigm one question at a time:

…preface your conversations with ‘What if…’ and see how your co-workers respond.

INTRODUCTION

Phenomenon-Based Learning

A *phenomenon* is an idea or event from the real world that is brought into the clasroom and examined from an interdisciplinary and multicultural perspective.

In Phenomenon-Based Learning (PhBL) projects, students develop critical and lateral thinking while working through enquiry and problem-based tasks.

In these short or extended projects, teachers intentionally embed *21st century skills* in outcomes, so that students develop social and cognitive cues that are essential for their future. The final products are later publicly presented so as to deepen ties and relevancy to diverse communities.

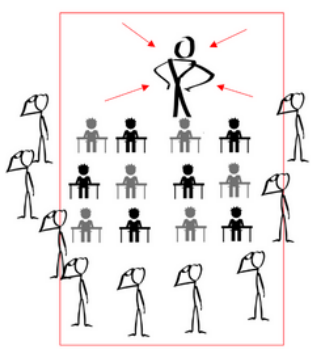
What if… you were told that not just your computer, but all computers were going to be manufactured with a new keyboard configuration – all the letters, symbols and directional buttons would be relocated. The idea is that the new keyboard would help you type faster, but you'd need to relearn your typing skills that took you years to perfect. How would you feel?

Influence of the military on the educational system used still today

There is a direct analogy to this little-known historical anecdote and the education system used in the majority of the schools today around the world. Whether we realise it or not, most of us are products of, and could even perpetuate, an educational paradigm created to benefit personalised agends - in our case, financial and military.

Let's look at the history of education...

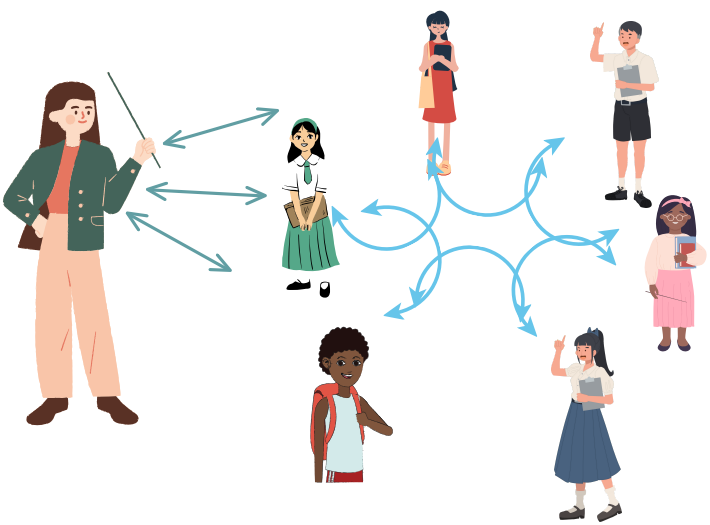
In the late 1700s, the Prussian king wanted to find a way to more efficiently control his people. His advisors targeted youth as the appropriate place of inception of a new plan with this objective. It was logical that ingraining specific directives on a population from a very young age was the most efficient mode of attaining complacency and the easiest way to influence these young civilians was through day-to-day contact. With all this in mind, the monarch revamped the educational system.



Over the succeeding decades, the model was carefully monitored, and through the evaluative lens of increasingly successful military maneuvers over successive years, it was ultimately considered to be so efficient that leaders from all over Europe saw its value and adopted it in their schools. It then spread across the ocean to the United States.

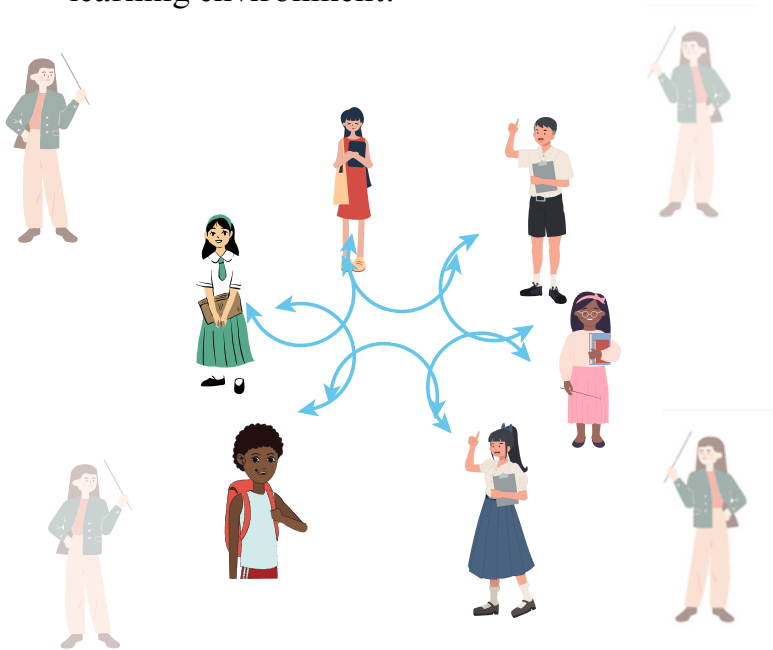
The beginning of the Industrial Revolution gave the educational model even more traction as factory owners saw that a classroom dedicated to suppressing even a consideration of freewill, created the perfect future factory workers: superficial thinkers who had been taught from an early age to sit for hours on end, do repetitive and monotonous exercises, were trained not to move or speak without asking for permission, and had little sense of their own value.

Don't believe it? Who is the one who validates students' responses? Who decides what is 'wrong' or 'right'? Who is the focal point in the classroom? Are your students ever given the opportunity to find the answers from each other? If your answer for most of these questions is ‘the teacher', you’ve confirmed that you promote the axis point of knowledge to be wherever you, the teacher is. A teacher-centred learning environment.



On the other hand, are any of the following true for you? Do you initiate a conversation and then encourage students to develop it amongst themselves? Do you present an activity and then go around the room listening to your students’ conversations, not intervening, but periodically challenging them to deepen their thinking or to think more laterally?

Later, do you give them the opportunity to present their conclusions to the rest of the class and let them justify whatever answer they may have? Before you give your opinion on their comments, do you wait until they speak amongst themselves, challenge each other's conclusions, and highlight inconsistencies and/or original thinking? Do you stress that you will share another perspective with them, but that it is not necessarily the definitive one? How much does the direction of information in your lessons reflect the image below? A student-centred learning environment.



- If you have planned tasks very specifically and some finish early and some need subnstantially more time, do you penalise both - the former by giving them work to do that does not truly further learning (busy work) and the latter by enforcing the schedule and not permitting them to finish, ergo inherently not permitting them to learn the information? This is a teacher-centred practice.

- If you have designed a project, thinking that you are being very innovative, but have not co-created any part of the tasks or deadlines with your students, are you truly giving opportunities to develop agency or it the project actually a thinly guised teacher-centred lesson?

Students who are still in the beginning of the task

Students finishing the task

40 minutes into the task

Students who have finished task and are working on homework

Students who have finished the task and homework and are working on an elective activity.

A truly student-centred dynamic is more like the diagram above. With pre-planned choices such as those above, you honour the rhythm of your students' learning needs by gifting them with time and valuable choices to extend learning and address it through their own comfort zone.*

**This is connected to John Hattie's effect size 'Time on tasks' (0,49)*

c) *Asking questions...*

- What percentage of the questions you ask are direct *(have one 'correct' answer)*?

- What percentage of the questions you ask come directly from one source (a worksheet, the Student Books, a video) *(Meaning that there is little need for inferencing or critical thinking.)*

- How much time do you usually give your students to answer a question once it's asked? *(Most teachers wait an average of no more than 3-5 seconds).*

(In Volume 2 we will delve into this more when exploring the traits of 'High Expectation Teachers'.)

Use questions as formative assessments that will both show *you* how much your students are assimilating new knowledge, and give your *students* a dynamic in which they can strengthen their speaking and social skills - by redirecting doubts back to them for their own clarification.

(*Dylan Wiliam's book* Embedded Formative Assessment *is an excellent resource for more ideas such as that shown below.)*

Group 1, what mathematical definition would distinguish the largest pyramid from the rest?

Group 2, please rephrase Group 1's answer and add another justifiable answer.

Group 3, if you were on a game show, which answer would you support more - Group 1 or Group 2 or your own? Explain.

Language Learning
vs.
Language Acquisition

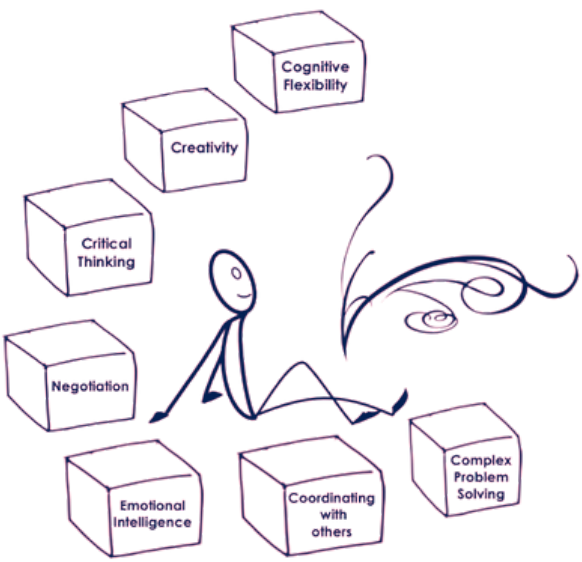
Language learning refers to the conscious study and knowledge of a clasroom language, knowing the rules of the language, being aware of them, and being able to talk about them.

Language acquisition refers to the natural assimilation of language - while we eat, play, interact with people around us.We are not consciously aware of grammatical rules, but rather develop a sense of correctness through practical experience.

It just takes reflecting on our goals, moving towards what we need to do to achieve them, and embedding specific techniques, strategies and activities in our daily lessons to promote the paradigm we truly want to promote.

You're going to get all that and so much more in these six volumes.

Phenomenon-Based Learning projects supporting language acquisition



Some of the building blocks that emerge from Phenemenon-Based Learning projects

This is where the organic nature of the Phenomenon-Based Learning structure becomes invaluable.

- ***Maths***

What if...I told you that a rectangle was similar to a circle. How would you prove the statement to be true or false?

- ***Engineering***

What if...power went out throughout the city? What do you know that could help the community adjust?

- ***Social sciences***

What if...you had to choose one climate to live in for the next 10 years? Which would you choose, why, and what are the key elements in the other climes that convinced you not to choose them?

- ***Natural sciences***

What if...animals could speak a human language? Write an autobiography of a specific animal and explain how they explain their evolution over the past 3-4 centuries, who they most like to spend time with, who they most need to avoid, how they feel about humans, where on the planet they most like to live, where couldn't they survive on the planet and in the universe, and what they believe their future is.

Scaffolds as the springboard into PhBL projects

Another key element to PhBL projects, that will be expanded more in each volume, is beginning with scaffolding activities. What are scaffolds, you ask? There are so many ways to explain these dynamic techniques, but here is one way:

> *Scaffolds are activities that facilitate the introduction of new knowledge to students through different learning styles. They are interactive strategies that pre-present academic language, concepts and images of the materials the students will be working with so that they feel more confident when they begin working with these elements later on.*

Scaffolding techniques are designed to further language acquisition by including the involvement of many intelligences so that, just as students learn their home language, they have opportunities to physically manipulate information, hear, imitate, self-correct, negotiate, debate meanings, in the classroom language.

Here are some examples of scaffolding activities that can give you a taste of their versatility and fun:

More than anything else, María had to fight her own prejudices about how she was taught to teach. To her own surprise, she was very open-minded and even though creating opportunities for her students to acquire language through scaffolding techniques was fundamentally different from what she had been led to believe was the only language model, she began observing how was effective they were.

Let's look at her first introduction into scaffolding more closely and you'll most likely find parallels to your experiences:

Case Study: María

María is a Pre-School/Primary teacher in a semi-private school in a small town in central Spain. As a product of the Spanish system both as a student and in her teacher-training, María knew little more than teacher-centred methodologies: all knowledge comes from the teacher in the front of the room, strict adherence is always paid to textbook structure and planning, validation comes solely from exam scores, lessons are weighted almost exclusively in logic and linguistic intelligences, teacher explains...students listen.

She also used the blueprint of language *learning* in her lessons: students learned the rules of the language, they learned grammar out of context, activities were almost exclusively filling in written exercises in books or worksheets, there was an emphasis on writing instead of speaking, most work was individual, teacher directed all aspects of the lesson.

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