

# Common obstacles in implementing project-based Learning

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You wanted to look up an unknown word from the dictionary. Unfortunately, you found out there are others in the descriptions that are also unknown to you. You either fell into the well of unknowable vocabulary, which is far from being relevant to the first word you had attempted to understand and being distracted from where it all started; or, you gave it all up half way through, letting go of whatever texts you had decided to comprehend. If you have experience of learning a second language, these may sound familiar.

The frustration brought by failing to understand a foreign language because of the unsuitable level of vocabulary is exactly the same as the puzzlement in teaching and learning through making projects - project-based learning (PBL hereinafter): it is easy to stray as there are too many problems flooding from all directions all at the same time. The emerging problems in the process are various, relentless, miscellaneous, and misdirecting.

With emphasis on the student-centeredness in education, school assessments have moved from traditional paper-based tests to multidimensional assessments that weigh on hands-on tasks, focusing more on the process of learning, and valuing more the knowledge and skills picked up on the way. The process of project conduction, where the actualisation of techniques and practical applications of knowledge lie, is then perceived to be far more important than the end results of written tests. There are a lot of reasons why PBL is so well liked. Studies have shown that PBL promotes students' cooperative learning ability which is beneficial for a person's lifelong development. Back in the 90s, Blumenfeld and some educational psychologists suggested that project works are adaptable to different types of learners and learning situations as it is believed that project works turn on students' active learning mode for they can autonomously decide the depth and breadth of their own



learning, and at a pace that is relatively suitable for them. In second language teaching and learning, PBL provides students with communicational opportunities, such as those for disputes and debates, to apply the target language in a more authentic way compared to memorising scripted dialogues. On top of these, some of the latest researches indicate that PBL helps students become proficient with 21st-century skills, known as communication, negotiation and collaboration, which are critical for future success in both school and life (Aksela and Haatainen, 2019; Mentzer et al., 2017). There is a common ground for workers at in the field of education to help students acquire content knowledge, skills, as well as feelings of commitment and ownership of their learning through PBL. Be that as it may, while implementing PBL, we had better not forget the numerous problems accompanied.

In view of the fact that PBL stimulates the development of students' social skills, project conducting skills, documenting skills, collaborative learning skills, disciplinary and interdisciplinary knowledge, researching skills, information management skills, etc. through working consciously on projects, PBL is amongst the most appreciated methods for multi-dimensional teaching and learning in classrooms.

Yet, the multi-dimensionality in PBL itself is the two sides of the same coin. While it allows students to explore

and learn multi-dimensionally, the multi-dimensionality itself often entails a number of tasks that have to be completed with advanced skills that the students may not have. In fulfilling these tasks, the students are easily led astray from their original goals, just as how we get lost from the aforementioned well of unknowable vocabulary in second language learning. These unknown factors make the road to success exceptionally rocky. The process of project conduction in PBL, which is supposed to be educational, is potentially long, torturous and far from being relevant to the original teaching and learning objectives. This is because of the mismatch between the teaching and learning objectives and the students' project conducting skills. Here are some controversies over PBL.



### **Students' computer proficiency**

You may have students who come to you to seek help for keyboard basics. Yes, this piece of fact is too obvious to be negligible. Our students do not know how to type on a keyboard as they can type ten times faster and more accurately by speech recognition or any other kinds of input methods but using Qwerty keyboard with ten fingers. The typing issue is particularly serious with ideographic languages, like Chinese, that engages complex character formations.

In fact, one of the biggest challenges that teachers of upper primary to upper secondary levels have is the difficulty assigning projects that fit students' computer proficiency, as the end-products are mostly done on the computers. Many upper level project works require not only matured intellectual ability and background interdisciplinary knowledge, but also a certain degree of paperwork skills. Yet, as students' computer proficiency varies, depending on their experience in self-regulated learning, sufficient access to electronic devices, parents' attitudes towards electronic product use, etc., there is no guarantee of what kinds of project works suit students' computer proficiency most. Very often, while a part of the students are struggling to type their words into a document on the computer, some other students are already thinking of ways to refine their multimedia files like micro movies. Some students may need help on structuring a formal document, at the same time, some other students are having a hard time with stratifying the information collected from library or online searches. These all need to be dealt with when implementing PBL.

There are always some missing bits and pieces to be supplemented before students can actually work on the subject. Therefore, what has been restricting the students from advancing disciplinary learning through PBL may not necessarily

be the 'background knowledge' in the subjects, but the poverty in basic computer competence: writing up a text with word-processing software, designing slides with presentation tools, typing skills, web navigation skills, computer security knowledge, email management skills, electronic presentation skills, skills with graphics, databases, spreadsheet, etc. You can never be too surprised about the variety of things you are to assist the students with. Basically, whenever your students tell you that they do not have an active email in use, despite how old they already are, and how mythical it sounds for them being users of the numerous trending social networking platforms already, you assist them with things as simple as opening an email account nonetheless.

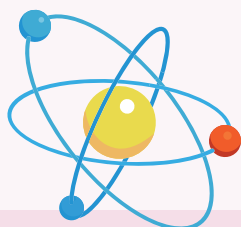
### **Students' language competence**

One of the biggest hindrances of PBL in practice lies in second language teaching and learning. With PBL, the dilemma over whether or not the students are allowed to use L1 (first language) is a constant problem. As mentioned, PBL encompasses skills of various dimensions. It is not difficult to imagine how daunting it is to conduct a project in a language you are not familiar with. Low language competence leads to low quality communication, inadequate discussions and cooperation, which results in mediocre project-based learning. Given





insufficient encouragement and support, this chain of events loops back and forth as a vicious circle and so reinforce the students' unsuccessfulness, which keeps demotivating them. PBL in second language learning requires so high a demand in language competence that makes it hard to decide whether it is the learning of the second language itself, or, the completion of the 'projects' is more important. In practice, PBL in second language teaching is often distorted into task-oriented and theme-heavy teaching with a mere touch of language focus, in which finishing the work is the most important and only goal to be achieved. As students find it difficult to make progress without the existence of their L1, more often than not, they simply give up using L2 when the teacher is not watching. In the end, the language focus is blurred by the chains of tasks at hand. So, 'zero tolerance' towards L1 in second language learning with PBL? How realistic is it to demand so? Then again, how much, of which area, and when L1 should be allowed so that we can be certain that its intervention is facilitating instead of dominating, synergising instead of overbearing, fostering instead of depending? With PBL, drawing the line between L1 and L2 in language teaching and learning is never easy.



## Students' interpersonal skills

Moreover, PBL is culture-laden and depending on students' maturity, relying heavily on interpersonal skills. In fact, not all students know how to, and are eager to, learn cooperatively. Students' development on social skills, which has been upheld as a major benefit of PBL, relies on teachers' facilitation. Teaching methods aiming at promoting competence through collaborative learning process rely heavily on the ambiances that are highly cooperative, interactive and mutually contributing, without which, PBL is but a simple pie-cutting job of a big pool of workload. In relatively conservative societies, like Macau, where individual assessments play a predominant role; where conflicts are to be avoided; where compromising is not explicitly taught and practised; students need more support to be able to hold discussions openly and impersonally. There are times that the discussion gets heated when the students get unreasonable and thus argue irrationally. There are times when one or two students dominate the group-work that the others are left silent. There are times when weak students, who have nothing to say for themselves right from the start, need persistent encouragement just to voice a 'no'. There are times when some students are reluctant to contribute and even refuse to cooperate from day one. There are times when cooperation is non-

existence. Oftentimes, the most capable students euphemistically get the biggest ‘share’ of work. These are no novelty to PBL implementers. The dramas are real stories of real situations, and they are not rare.

### **Students’ personal maturity**

Talking of students’ maturity, there is a lot more to be considered when assigning projects. One of them concerns the gap between students’ intellectual and cognitive capacities. Put simply, we have to give the right people the right tasks with the right amount of workload. Aksela and Haatainen (2019) confirm that PBL enhances the links among disciplines, and presents an expanded rather than narrow view of subject matters. Students of upper secondary levels are well capable of handling heavy-duty, sophisticated, but meaningful and thought-provoking topics dealing with societal issues like environmental problems, climate change, discrimination, gender equality, educational equity, unemployment, social mobility, social welfare, etc. Yet it does not mean our students are well capable of handling these topics for project conduction as they involve more than mere internet search, but also matured and better developed language and thinking abilities to yield positive outcomes. In other words, when we want our students to learn about something through PBL, we would really

want them feed their own curiosity on the knowledge, concepts, methods, skills, tactics that they already own, so that they are not hindered by their own inability to find out the truths in the first place.

PBL, though widely adopted as a means of turning teachers’ didactic teaching into students’ self-regulated learning, lays claims on multiple intermingled facets of knowledge simultaneously. Time, which grants sufficient autonomy and understanding to bridge the gaps between the various aspects, is therefore noted as both barrier and synergy (Blumenfeld et al., 1991; Han et al., 2015). Our role as teachers, thereby, is to realistically recognise the predicaments our students are faced with, and to be in the vanguard of strategic planning — while the students work closely on meeting their own deadlines, we keep track of the progress and schedule with readiness to adjust for the students’ needs. Teachers, by nature, are people who have a disposition to carefully dissect complexities and are professionalised to assemble and build the students up step by step. The very mastery of the bottom-up skill makes teachers perceptively able to capture the slightest hints of student needs. Yet for pedagogies like PBL, which demand skills of almost every aspect of past knowledge, take teachers two to three years in teacher training to shift their understanding and teaching practices



(Aksela and Haatainen, 2019; Mentzet et al., 2017). The education mentality and competence are those needed to be included in pre-service and in-service teacher training. This also calls for strategic planning for formative assessments, each build on the skills developed previously. In other words, we assist the students to reach the tipping point that opens doors for new knowledge and skills by strategically setting up checkpoints for both the students and teacher so that neither get misdirected. For good measure, never forget a pinch of sugar - the sense of fulfilment, advancement, commitment, mindfulness, being participative, being constructive, being acknowledged, being appreciated, and all kinds of positive feelings that people need to experience when they have accomplished a difficult task. All the hard work adds up value to the outcome so that students are not only left with thinking they may be able do it, but they actually can.

While we are so eager in opening doors for learning, we should, perhaps, bear in mind that these doors are not meant to be opened all at the same time. 🍬

## References:

- Aksela, M., & Haatainen, O. (2019). Project-based learning (PBL) in practice: Active teachers' views of its advantages and challenges. *In Integrated Education for the Real World: 5th International STEM in Education Conference Post-Conference Proceedings*. Queensland University of Technology, 21-23 November 2018, 9-16.
- Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., et al. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist*, 26, 369—398. DOI: 10.1080/00461520.1991.9653139
- Han, S. Y., Yalvac, B., Capraro, M. M., & Capraro, R. M. (2015). In-service Teachers' Implementation and Understanding of STEM Project Based Learning. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(1), 63-76. Retrieved from <https://doi.org/10.12973/eurasia.2015.1306a>
- Mentzer, G. A., Czerniak, C. M., & Brooks, L. (2017). An Examination of Teacher Understanding of Project Based Science as a Result of Participating in an Extended Professional Development Program: Implications for Implementation. *School Science and Mathematics*, 117(1-2), 76-86. Retrieved from <https://doi.org/10.1111/ssm.12208>

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