



## Meaningfulness of Online Inquiry Learning

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### ABSTRACT

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Inquiry learning has long stood the test of time over the last hundred years to maintain value in the practice of education, more so in the 21<sup>st</sup> century. 'Introspection' captures best what Dewey (1910/1933) illumines on reflective thinking which is vital in the teaching-learning process (Bybee & Landes, 1990; Gibbs 1988; Farrell, 2008). The current literature is rich to inform on the principles and practices of inquiry learning, but with disparate findings as to its effectiveness and design of approaches, both as framework for empirical work and as pedagogical innovation. This study reflects on the Inquiry-based Learning Project (IQBLP) designed to engage students to explore Intercultural Communication Competencies (ICC) of migrants, expats, and international students. The project was designed to be fully online. Through a comprehensive and reflective action analysis using SWOT, the study found that the IQBLP is an authentic highly motivating experience for students to achieve learning outcomes and could be moderately affected by student's mediocre or superficial attitude towards learning. It is highly potential to promote holistic development with very minimal to negligible risk when done online. It is theoretically and philosophically sound to build ICC and uncover the hidden curriculum, targeting all prescribed general education outcomes. Its risks and threats are manageable but vital to inform future directions and application across the curriculum in hybrid or in-person modality.

### KEYWORDS:

action-reflection  
framework, OBE,  
inquiry learning,  
meaningful learning,  
culture-based education

### INTRODUCTION

Introspection is argued to be tainted by self-preconception, unobservable in the real world, and unreliable as a report of memory that could not be positively determined ex post facto (Danzinger, 2015). These limitations are addressed by self-reflexivity which fundamentally guides qualitative inquiry to acknowledge the role and subjectivities of the researcher as to how they affect the process which also shapes them (Palaganas, Sanchez, Molintas, & Caricativo, 2017; Corlette & Mavin, 2018). In doing so, the researchers think about their experience and question their own actions towards it (Haynes, 2012).

In this reflective-action research, the action researchers are the faculty who designed an Inquiry-Based Learning Project (IQBLP) for a pilot program on Global Communication (GLOBCOM). The primary aim of the inquiry is to evaluate the effectiveness of the IQBLP as a pedagogical approach to scaffold learning on Intercultural Communication

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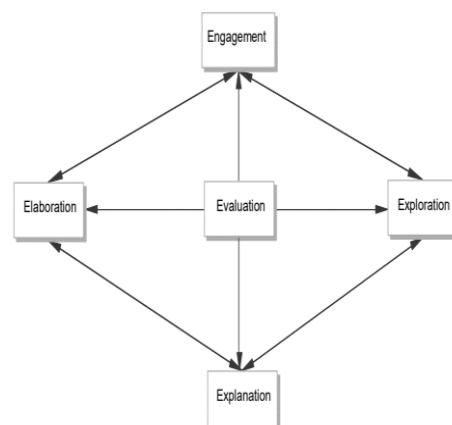
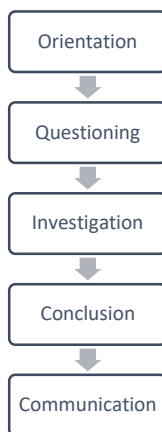
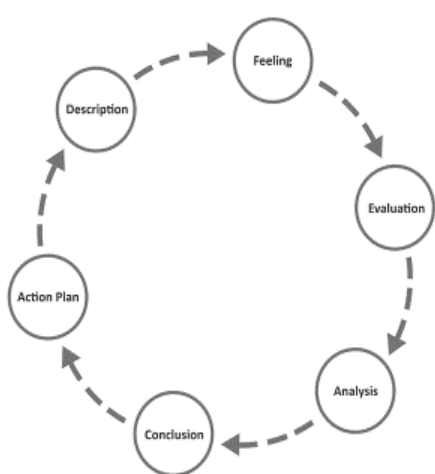
Competencies (ICC). This activity was designed as a major course output, guided by two learning outcomes: "1) adapt/adopt international practices in communicating in the new workplace; and 2) develop strategies in building intercultural competence" (Rivera & Delos Santos, 2022). In designing the project, the faculty were guided by Wiggins & McTighe's framework (2005), wherein outcomes were first identified, expectations and evaluation measures were considered which was followed by formulating the action steps in a form of a guideline, before it was implemented. Dewey reminds the faculty on being too preoccupied with their own understanding and encourage them to reflect on their practice for their professional advancement and improvisation of the teaching-learning approaches they bring to education (1910/1933). With understanding of the limitations of introspection, a more systematic analysis of the project's strengths, weaknesses, opportunities, and threats (SWOT) guides this investigation. Thus, this self-reflexive action research inquires: *how meaningful is a structured inquiry learning to meet desirable learning outcomes in a full online modality?*

***Inquiry Learning: Principles and Practices***

Project-Based, Problem-Based and Inquiry-Based Learning are all rooted to Dewey’s propositions on reflective thinking (Albion, 2015). Reflection is premised on the intellectual capacity to inquire and solve problems; it is a meaning-making process where prior assumptions about a problem or solutions are challenged through a rigorous process, rationalizing on the causes and implications of a problem, to resolve it and examine their value to address the concern with

pre-existing knowledge (Dewey, 1910/1933). Applied to teaching, it stimulates creative and critical thinking, providing the learners opportunities to understand real life situations with real audience, which is a natural way to problematize and find solutions (Ismail & Albakri, 2006). The process is designed for students to engage, explain, explore, elaborate, and evaluate in a continuum or learning cycle (Duran & Duran, 2004).

**Figures 1.1, 1.2, 1.3: Current Frameworks on Inquiry Learning (Gibbs, 1988; Pedesta, et al, 2015.; Bybee & Landes, 1990)**



Figures 1.1, 1.2 and 1.3 inform that paradigms on inquiry learning vary in its approach to be either transactional or interactional, but currently most teachers find utility in adopting a transactional framework. Gibbs’ model (1988) and that of Bybee and Landes (1990) illustrate the process of inquiry in a cyclical and omnidirectional pattern, and they are also used as reference in evaluating teaching-actions. However, Pedesta et al., (2015). through a systematic review of 43 studies on inquiry learning found that teachers mostly apply a transactional (unidirectional) approach. The model in Figure 1.2 seems to suggest that inquiry is terminal and its conduct does not build up as spiral of learning as Bruner posits (1960). Gibbs’ model is commended to emphasize the role of feelings or emotions in the reflective process but is criticized in some ways to produce superficial outcomes and inconsistencies due to overlaps in its elements (Timmins, Murphy, Howe & Dennehy, 2013; Lee, 2021).

The 5E model (Figure 1.3) developed by Bybee and Landes (1990) shows promising results in achieving learning outcomes and it has gained footing to be very applicable in the K12 curriculum more particularly in the science classroom. In principle, it is not so different from the inquiry-based learning stages that Pedesta et al. identified except that it presents the process as interactional. Understanding these frameworks is vital to guide the action-researchers in their reflection that should improve teaching-learning experiences. Inquiry learning is constructivist and social constructionist in approach, to consider students’ capacity to create knowledge,

through scaffolds that teachers provide, and in social interaction with others, learning from their experiences and realities (Bruner, 1960; Vygotsky, 1998; Berger & Luckmann, 1991). Meaningful education is about knowledge construction and sense-making that should enable the learners to develop the needed competencies for them to thrive.

***The Hidden Curriculum and the Power of Inquiry***

Global communication is a multidisciplinary study anchored in the principles of intercultural and cross-cultural communication, but the discipline intersects various fields (Howard, 1993). GLOBCOM is “designed to equip students with vital knowledge-skills sets to effectively deal and foster mutual relationships with individuals and groups from diverse cultural backgrounds... to address the need for interconnectedness in diverse academic, social, and professional settings.” (Rivera & Delos Santos, Course Syllabus, 2022). Intercultural communication is not just about knowledge of others or dealing with others from another culture, it also strengthens knowledge of oneself or intracultural awareness (Ismailov, 2021). Self-knowledge is key to ICC as it relates to one’s motivation, knowledge of culture and tolerance for uncertainty (University of Minnesota, 2015).

Intercultural communication, cross-cultural communication and global communication are distinct disciplines with a shared goal to develop communication competencies with culture as context. Intercultural communication

acknowledges individual's cultural diversity to find grounds for mutual relationships through effective and appropriate social interactions, referring to exchanges and negotiations taking place across cultural boundaries (Martin & Nakayama, 2010). Cross-cultural communication looks at the differences or contrasts between the communicative behavior (e.g., genderlect style) of cultural groups, yet still share the aims to promote understanding between them despite their disparities (Tannen, 1985). Global communication (Chen, 2005) situates the study in the contemporary world context acknowledging diversity as influenced by culture, requiring adaptive knowledge-skill sets (i.e., global mindset, self-awareness, cultural knowledge, and adaptive behavior).

The hidden curriculum are value laden expressions that guide perspectives and behaviors, relative to what the institution, the society and the discipline hold which should be constructively and inclusively aligned to the formal curriculum, to effect significant and transformative outcomes (Killick, 2016). Identifying and validating how these values were emphasized and affected students' understanding can inform instructional development decisions.

#### ***Holistic Development, Educational Innovation, and Assessment***

In the Philippines, the general education (GE) curriculum is mandated by the Commission on Higher Education to promote holistic development enabling the students to: develop self-identity, consciousness of their talents, rights and responsibilities towards others; have awareness and pride of their collective identity as Filipino and contribute to the development of the society and the country; and respect, recognize and appreciate diversity with concern for problems affecting the world as a global community (CMO No. 20, s. 2013). Adhering to this call, courses in the general education program, be it a required offering or an elective must meet these aims.

The CMO No. 20, s. 2013 also specifies 19 program outcomes for the GE courses. The GLOBCOM syllabus have well identified learning outcomes but tagged some personal civic competencies as opportunities. Over the course though, and through the IQBLP, these outcomes seemed to be learned and practiced, more than as how it was initially identified as an opportunity. Yet, that is subject to validation through this study.

To enable achievement of learning outcomes, the learning experience must be well designed and innovative. Design thinking applies in instructional activities, where teachers and students can be engaged to come up with creative solutions to identified problems, ask questions from those who have direct experience of the concern and then design a course of actions that they also test; this approach allows for creativity, collaboration and authentic learning (Henessey & Mueller, 2020). The IQBLP was designed for students taking the course online, with careful consideration as to the learning outcomes, and structured to address possible concerns that

may arise in its conduct. Its application in GLOBCOM was a prototype that is subject for evaluation.

Educational innovation improves pedagogical approaches that address teaching-learning problems, acquisition of knowledge and adopting appropriate approaches and technology for the learner's advancement (Mikhailynshin, Kondur, & Serman, 2018). The IQBLP is assumed to be innovative, an uncommon practice in the department, and it was not even prescribed in the syllabus. Inquiry learning often takes forms as concept paper, project proposal or critical essays that require students to develop their ideas in written discourses with adequate and documented supporting materials from other literature. Innovatively, the IQBLP did not require students to write full papers but communicate their ideas orally, derived from the findings in their interviews.

There are several measures to evaluate the achievement of a learning outcome; indirect measures include soliciting feedback from the students, while direct measures include student's output, its quality evidenced by their assessment of performance and teacher's verifiable observation (Keshavarz, 2011). Assessment of student performance provides students feedback on their strengths and weaknesses that should help them improve and should inform teachers to reflect on the experience they engaged the students, pinning on what could be improved in the said tasks that should enable achievement of learning outcomes. As an innovation the IQBLP must be evaluated relative to how it achieved learning outcomes.

#### ***Action-reflection and Inquiry Learning***

Reflection-in-action is found to be strongly associated to a smooth progression of the lesson (Iqbal, 2017). Action reflection that should also consider the teacher's feelings (Gibbs, 1988) must be systematic and professional to offer more fruitful results, so improve the teaching practice holistically (Leitch & Day, 2000). Critical to this process is that teachers clarify their assumptions and then consequently put that to the test in a form of an inquiry which leads to justify their action plans (Farell, 2008). Hence, this study becomes a priori to corroborate its findings with that of the student's perspectives

Several studies (Safonov, 2021; Longhurst, et al., 2020; Dampson, Addai-Mununkum, Apau, & Benti, 2020) have used SWOT analysis to assess effectiveness of teaching-learning practices and have met their empirical purpose across disciplines. Schon argues that action reflection for teachers is a continuous effort, that they must be thinking on their feet in every teaching-learning encounter (1983, cited in Farell, 2018). Models on action-reflection have limitations to be personal, un-reflexive, not contextualized and uncritical, for that its operationalization are varied but should not dissipate from its theoretical foundation, as tool to facilitate practice development processes (Middleton, 2017).

A study on structured approach to inquiry learning, applied to research writing, was found to be helpful for students to

follow a format, achieve learning outcomes and improve performance (Tabuena, 2020). However, in a reading class, IBL was not found to offer promising results observing no difference in motivation, perception of learning outcomes, between control and treatment groups, but established high correlation of IBL to reflective thinking (Johnson & Cuevas, 2016). On the other hand, a quasi-experimental study on IBL through telecollaboration found that students had high levels of engagement and confidence to potential intercultural communication, and same level of intracultural knowledge with the other group which is predicted by motivation and peer-collaboration (Ismailov, 2021).

Compared to traditional teaching hinged on cognitive behaviorism, inquiry learning that is premised on cognitive constructivism was observed in a meta-analysis of 43 empirical works to be efficient in many aspects such as it promotes self-regulated learning where the teacher is positioned as guide and facilitator and it developed knowledge, skills and confidence where students highly performed, but motivation was low as with its outcomes (Khalaf & Zin, 2018).

Communication, collaboration, critical and creative thinking are core competencies in the 21<sup>st</sup> century (Communication in the 21st Century, 2020; Imagine Education, 2022; Higgins, 2014; Laal, Laal, & Kermanshahi, 2012). With constructivist perspectives, active learning deviates from teacher-centric lectures to allow students to learn on their own, and in learning by doing, learners are immersed to an experience where they come up with new knowledge (Felder & Brent, 2009; Reese, 2011). These disparate findings on IBL prompted the faculty to reflect on its practice and given the variations of the models to approach action-research, they devised a framework that is aligned to reflectively evaluate a practice with an outcomes-based perspective.

## **METHODOLOGY**

The IQBLP was structured for GLOBCOM students in seven classes to work individually and in groups of five, within two weeks. It was conducted in the 2<sup>nd</sup> term of 2021-2021. As group they formulated their assumptions on the five key questions on the dimensions of ICC, challenges in adaptation and integration, and communicative behavior. They individually interviewed target participants and reconvened to share their findings with their groups. They examined their collected and data to validate their assumptions, conclude and formulate recommendations. Their findings, conclusion and recommendations were presented orally in synchronous class, with 10-15 minutes given for each group. After their

presentation they were asked questions for their self-reflection on how meaningful the process was for them.

An Action-SWOT analysis is useful in preparing plans based on program process, to understand how a process fits in the environment and to support formulation of actionable steps, building on strengths, addressing weaknesses, identifying opportunities, and preventing future threats (Armbruster & Moran, 2013). Farrell (2008) identified the final output of an action-research to be an action plan, to this a SWOT analysis will be a handy tool for the proponents to base their recommendations from. The researchers examined the qualitative following Braun and Clarke's framework on thematic analysis (2006). The action-researchers responded to 20 open-ended questions under the four aspects of evaluation to substantiate their introspections with recallable experiences, review of the syllabus, assessment of students' performance and other documents available to support reflection, focused on both the teachers and students' perspectives.

Over-all a reflective evaluation must be committed to describe the teacher's cognitive and affective experiences (Leitch & Day, 2000). This reflection pays attention to the IQBLP's outcomes, applications, implications, and innovativeness relative to ICC. Observing reflexivity, the action-researchers applied a two-tier approach to thematize on each other's reflection. As such the action-reflection was collaborative where the action-researcher framed and reframed their understanding which assured higher level of reflexivity and critical thinking, having each of them positioned as critical friend (Loughran, 2010). Concordance of these themes were measured as to low, moderate and high as to how consistent they were in the action-researchers' reflections, understanding and agreement, and whether they are observable or just perceptual.

## **RESULTS AND DISCUSSION**

Pedagogy is the art and practice of teaching that optimizes student's learning and development (Child Australia, 2017). Teaching reflection should not only consider the faculty's personal beliefs, thoughts, or assumptions on their practice, but also how they think and feel as to how an implemented practice had potential impact on student's advancement. SWOT analysis is advantageous as it is critical to reveal ideas on educational contexts, effective to increase power and eliminate risks to guide development of plans and strategies that minimize weaknesses and threats (Arslan & Costu, 2021).

Table 1: Internal Advantages and Disadvantages of IQBLP to Student Learning

<i>Internal Disadvantages</i>	<i>Coded Subthemes on Strengths (f=11)</i>	<i>Concordance</i>	<i>Conditions</i>
<i>Authentic Learning</i>	Collaborative learning	HC	O
	Immersive	MC	P
	Experiential	HC	P
	Exploration/Discovery	HC	O
	Authentic	HC	P
<i>Learning Motivation</i>	Engagement in active learning	HC	O
	Excitement and apprehension	HC	O
<i>Outcomes Achievement</i>	Learning Performance	HC	O
	Critical thinking	HC	O
<i>Conceptual Understanding</i>	Knowledge reinforcement	HC	O
	Reflective thinking	HC	O
<i>Internal Disadvantages</i>	<i>Coded Subthemes on Weaknesses (f=17)</i>	<i>Concordance</i>	<i>Conditions</i>
<i>General Guidelines</i>	Unclear individual learning task	MC	P
	General guidelines on participants	MC	O
	No guidelines on documentation	MC	O
	Time allocation	MC	O
	Time extensions	MC	O
<i>Broad Inquiry Focus</i>	Relatability of the topic	MC	O
	Weak emphasis on communication	MC	P
	Broad focus of inquiry	MC	P
<i>Mediocre Attitude</i>	Unfamiliarity with interviewee	MC	P
	Difficulty to get interviewee	HC	P
	Workload concern	HC	O
	Anxiety to get participant	HC	O
	Convenience in compliance	MC	P
	Lack of cooperation with groups	MC	P
<i>Inadequacy of Resource</i>	Internet connection	MC	O
	Lack of template	MC	O
	No progress monitoring.		O
		MC	

Table 1 identifies the semantically coded subthemes and their categorical themes under strengths and weaknesses, showing that the IQBLP is very meaningful in terms of its advantages to engage students in authentic learning that is student-centered in approach, generally observed to motivate them to achieve desired learning outcomes and gain pertinent understanding on the topic of the course. Although there were more disadvantages identified, the IQBLP was generally manageable and had no serious concerns to deter outcomes achievements, having moderate concordance (MC) on concerns respective to general guidelines, inquiry focus and learning resources; the apparent weakness is on the perceived (P) learning attitude of students to deflect interest due to personal convenience. Internal consistency between the action-researchers on its strengths is at high concordance (HC) and that most those advantages they identified are verifiable observations (O). The disadvantages had moderate to high concordance being mostly observable than just perceived.

The advantages of the IQBLP is supported by the notions of authentic learning observed in the interaction of the learners' roles, involvement in tasks and engagement in the environment where they are able to identify and solve problems that reflect applicable knowledge of the real-world (Herrington & Herrington, 2008). Its structure and design, with corresponding guidelines and proper orientation for the students, successfully led students to demonstrate key 21<sup>st</sup> century skills: collaboration and critical thinking (Tabuena, 2020; Higgins, 2014). Learning motivation was enhanced, contrary to what was observed in other study (Johnson & Cuevas, 2016; Khalaf & Zin, 2018). One faculty reported, "Based on the student's sharing after the presentation the activity made them realize some things that they didn't know and that some of their beliefs about the experience of being in another country were not really what they expected to be." Excitement and apprehension were evident with regards to doing the task, as one faculty noted, "I felt their excitement and apprehension based on the questions that they raised

prior to doing the activity”. This is a good indicator of how a novel activity could challenge and motivate students. Highly evident concerns are attributed to the learner’s mediocre attitude, relative to approaching the project. This manifests as a surface approach where the students’ intention is passive to reproduce content parts, accept information, concentrate on minimum requirement, and not reflect on their strategies and the principles of the task (Knowles & Kerkman, 2007). The observation of apprehension indicates a deeper approach, but the demand to obtain minimum participants in their project is passive. Most of the weaknesses of IQBLP had moderate concordance, to suggest that it was apparent for one of the action-researchers, but they agreed later to consider them upon further reflection. Yet, they are observed so they must be considered to guide subsequent plans and decisions for its improvement.

Table 2 shows that the IQBLP is strongly observed to have high potential to promote holistic development for students, and with very low (LC) observable external risks. Keyness in

analyzing qualitative data is more important than counting the prevalence or frequencies of constructs (Braun & Clarke, 2006). Over the number of threats identified, there is greater sense and value in the few subthemes on the potential benefit of the IQBLP.

The holistic development goal of general education in the Philippines is prescriptive to promote individual, social, and global development of learners (CMO No.20, s. 2013). The bracketed themes in the IQBLP’s opportunities are indicative of holistic development, as one faculty observed “It is innovative as it is novel and creative in a way. It is inclusive to empower every student in the class to manage their own learning, and also provides them opportunity to connect with the society.” Focused on ICC, a primary benefit that students can take from the IQBLP is that it enhances both their self- and knowledge of others, building their intracultural knowledge and intercultural competence hand in hand (Ismailov, 2021).

**Table 2. External Risks and Potential Benefits of IQBLP to Student Learning**

<i>Potential Benefits</i>	<i>Coded Subthemes on Opportunities (f=6)</i>	<i>Concordance</i>	<i>Conditions</i>
<b>Holistic Development</b>	Self-regulated learning	HC	O
	Creative & critical thinking	HC	O
	Innovativeness	HC	O
	Community-based	HC	O
	Student empowerment	HC	O
	Inclusive to engage anyone	HC	O
<i>External Risks</i>	<i>Coded Subthemes on Threats (f=10)</i>	<i>Concordance</i>	<i>Conditions</i>
<b>Participation Issues</b>	Anxiety in dealing with others	LC	P
	Difficulty of finding participants	LC	O
<b>Project Management</b>	Efficiency in doing the tasks	LC	O
	Technology drawbacks	LC	O
	Time differences	LC	O
	Inconvenient schedule of Interview	MC	P
<b>Quality of Analysis</b>	Misinterpretation/Mistranslation	LC	O
	Faulty Generalization	LC	O
<b>Student Safety</b>	Safety concerns	LC	P
<b>Relevance</b>	Sense of relevance to the topic	MC	P

Online learning has three key dimensions, namely, inquiry, connectivity, and collaboration among community of learners. This implies that students are engaged in an active learning experience, becoming cognizant through social and teacher presence, threading a network of information sources and people; and collaborating with others to build upon knowledge using available online resources (Picciano, 2017). Two potential threats are notably perceived with the project, that it could inconvenience the students due to time difference between them and their informant and finding the process to be irrelevant to the topic. Time difference can be addressed by choosing another informant, but relevance is a rather major intrinsic concern. Relevance refers to the students’ deeper connection with their interest in learning and the quality of

learning process that enables them to expand their understanding and realization of the practical applications of what they learned (Saikia & Bezborah, 2014). Relevance is also associated to the hidden curriculum. One faculty noted, that the IQBLP provides a “measure of students’ critical thinking skills, resourcefulness, respectfulness, creativity, and intercultural communication skills”. This is relative in the introduction of the IQBLP to the students that they would wonder of its relevance, thus should be examined after the fact.

Table 3 presents the action-researchers’ perceived and observed internal advantages and disadvantage of the IQBLP to teaching. Data strongly supports that there is theoretical and philosophical soundness in applying the IQBLP on the

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competency development of students and the teacher's professional advancement, being innovative to support pragmatic learning that matters to students. Though there is room for improvement, classroom management is observed to affect the process of output delivery, and there is evidence of need to review the evaluative measures of the activity.

There is lesser prevalence of disadvantages to teaching compared to learning, and these disadvantages had lower to moderate concordance and are rather perceptual than observable in practice. Most of the advantages were highly observed except for the perception on minimal teacher participation as learning facilitator.

**Table 3. Internal Advantages and Disadvantages of IQBLP to Teaching**

<i>Categorical Strengths</i>	<i>Coded Subthemes (f=18)</i>	<i>Concordance</i>	<i>Condition</i>
<i>Competency development</i>	Better teaching performance	HC	O
	Intercultural and multicultural insights	HC	O
	Teaching about integration in another culture	HC	O
	Understanding of self and introspection	HC	O
<i>Constructivism</i>	Applied scaffold to prior learning content	HC	O
	Realizations on valid teaching methodology	HC	O
<i>Educational innovation</i>	Identifications of teaching limitations	HC	O
	Validation of effective teaching	HC	O
	Minimal teacher participation	LC	P
	Less teaching preparation	HC	O
<i>Mattering</i>	Sensitivity to students affect	HC	O
<i>Pragmatic learning</i>	Offered practical solutions based on inquiry	HC	O
<i>Professional Advancement</i>	Engaged in students' presentation	HC	O
	Excitement in and discovery of learning process	HC	O
	Sense of fulfilment	HC	O
	Critical evaluator/ Reflexive teaching	LC	O
	Collaboration with other teachers	HC	O
<i>Social Constructivism</i>	Collaborative teaching-learning design	HC	O
<i>Categorical Weaknesses</i>	<i>Coded Subthemes (f=10)</i>	<i>Concordance</i>	<i>Condition</i>
<i>Classroom management</i>	Difficulty in management of class time	HC	O
<i>Design &amp; Structure</i>	Not identifying specific areas to investigate	MC	P
	Lack of focus on communication	MC	O
	Lack of examples or template	HC	P
<i>Feedback</i>	Mistake in feedback to generalize	LC	P
<i>Professional Background</i>	Lack of training on IBL	LC	P
	Lack of prior experience	LC	P
<i>Teaching Evaluation</i>	Needs systematic evaluation of the process	LC	P
	Examination of the rubric	MC	O
	Provision of Progress Checklist monitoring	MC	O

The coded subthemes and the categorical advantages of employing IQBLP characterize learner-centeredness (Weimer, 2002/2013) that allows students to actively learn by doing and thus demonstrate the expected competencies or outcomes of the course (Felder & Brent, 2009; Reese, 2011; Rivera & Delos Santos, 2022). Its design and structure to guide understanding (Wiggins & McTighe, 2005) may attribute to the professional advancement of the teachers that also demonstrated how empathic they were to make students matter (Gravett, Taylor, & Fairchild, 2021) in an online modality. One faculty describes, "I was excited to hear about

their findings. As they explain and conclude, I get goosebumps as I find myself as an audience to erudite learners who knew what they are talking about and could make meaningful connections of their previous learning from all the lessons we had, and they could come up with practical solutions to a problem they identified from their investigation." Classroom management which is a highly observed issue only pertains to ensuring that every group in the class can present in the given time allowed for them so as not to affect other groups. This is rather a minor concern but worth noting.

Table 4. External Potential Benefits and Risks of IQBLP to Teaching

<i>Categorical Opportunities</i>	<i>Coded Subthemes (f=17)</i>	<i>Concordance</i>	<i>Conditions</i>
<i>Cognitive development</i>	Formulating and validating assumptions	HC	O
	Evidence of learning and measurement	HC	O
	Encourage investigation	HC	O
	Adds theoretical inputs	HC	O
	New perspectives on the topic	HC	O
<i>Curricular Adoption</i>	Applicable to other subjects	HC	P
	Implications for policy formulation on issues	HC	P
	The method can still be explored	HC	O
	Can be adopted in other courses	HC	P
<i>Personal and civic competence</i>	Openness to engage others from the community	HC	O
	Promotes problem-solving	HC	O
	Empowers students' independent learning	HC	O
	Can be used for social development	HC	O
<i>Practical skills</i>	Can utilize various technological resources	HC	O
	Sources authentic knowledge firsthand	HC	O
	Utilize various modes of communication	HC	O
	Engagement in authentic learning	HC	O
<i>Categorical Threats</i>	<i>Coded Subthemes (f-14)</i>	<i>Concordance</i>	<i>Conditions</i>
<i>Imprudent feedback</i>	Possible misinterpretation/ or wrong generalization	LC	O
	Lack of immediate feedback during presentation	LC	O
	Delay in responding to student queries	LC	P
<i>Lack of teacher competencies</i>	Teacher's inexperience on the IBL process	LC	P
	Teacher's openness on exploring new approaches	HC	P
	Poor design and lack of structure	MC	P
	Misalignment to objectives	HC	P
	Lack of theoretical inputs	HC	P
<i>Non-compliance of students</i>	Non-fidelity to comply with the guidelines	MC	P
	Time limitations	HC	O
	Not following Time allotment	HC	O
	Does not apply to rote learning	MC	O
<i>Technological glitches</i>	Physical safety in face-to-face interviews	LC	P
	Internet connectivity issue	HC	O

Table 4 shows evidence that the IQBLP offers highly promising opportunities for development of cognitive, personal, and civic competencies, and practical skills which can be adopted across curriculum. On the other hand, the data informs that lack of teacher's competencies is perceived to be a threat to the success of IQBLP. Also, students' non-compliance to the guidelines and time allocation could impact others' performance. Technological glitches also remain to be a threat in an online modality. The identified opportunities are strongly observed with high concordance, while the threats vary in consistency and are rather qualified perceptions. Data also shows that the opportunities point to advantage the students, so it is obvious that IQBLP has potential application across the curriculum. The categorical opportunities identified directed toward the student reflect the Commission on Higher Education's three groups of learning outcomes for general education courses (CMO No. 20, s. 2013). One faculty asserted, the "IQBLP teaches the learners to explore topics on their own. It arms them with critical thinking skills

by allowing them to create their own assumptions, interview questions, and revalidation statements."

Akin to the concerns on classroom management and professional background on IQBLP is the potential threat of lack of teacher competencies that could affect the whole process. Thus, in implementing such, the teachers should be thinking at their feet (Schon cited in Farrell, 2008). Feedback is also identified to be an important concern, as weakness and threat, and this pertains to the quality of the teacher's evaluation communicated to the students as well as its promptness to help students meet their learning goals. The success or failure of IQBLP as pedagogical approach depends on the teacher's action and reflection throughout the teaching-learning process, to wit:

*"Failure is imminent when: teachers are not able to identify a meaningful purpose for engaging the students in such project; not being able to provide students necessary conceptual understanding of the*



*topic, and not being able to guide the students what else should be known or unknown to be inquired about; not helping the students with formulating the questions and not identifying the problem of inquiry that should help them; having no clear directions as to how the data will be analyzed and what for; emphasizing only on the data gathering and analysis, and not communicating their findings; not allowing the students to generate practical solutions to the problem they identified; and lack of reflection on the process both from the students and the teachers.”*

The findings in this comprehensive qualitative analysis reveal 34 themes to which a substantive conclusion can be made to answer the research problem. Despite following a linear pattern of inquiry learning, the results from this analysis offer evidence that engaged students to explore, explain, elaborate, and evaluate resulting to achievement of learning outcomes on ICC through a structured and reflexive approach applied to IQBLP. Those found 34 themes reflect eight key components that teachers should be mindful of: learning outcomes, content, design, strategies, performance assessment, learning resources, feedback, and understanding of the student’s profile of background. Alignment of all those curriculum components will matter to make any successful meaningful teaching-learning intervention; for both the students and the faculty this alignment must be a shared understanding and visible to them (Wijngaards-de Meij & Merx, 2018).

## CONCLUSION

This study concludes that the level of meaningfulness of a structured inquiry-based learning project is relatively high. Data showed that the IQBLP is effective in terms of its ability to engage students in authentic learning and in reinforcing the student-centered approach, that meets desirable learning outcomes. The innovativeness of the IQBLP as an application of the Learner-Centered approach empowers teachers to explore unorthodox learning methodologies that allows students to identify current and relevant issues in a multicultural workplace and gain an understanding from those who have direct experiences of socio-cultural problems and then assist them in formulating and validating their assumptions based on previously discussed lessons related to the topic. The teacher’s role as facilitator in an IQBLP allows for innovative, cooperative, and reflective pedagogical design to engage students actively. Here, teachers facilitate learning. Furthermore, the study supports IQBLP as a teaching methodology that fosters holistic development.

A structured IQBLP makes this possible because it allows students to follow the guidelines of the project and they are given an opportunity to manifest their understanding of the topic by performing a systematic process of inquiry and an

application of their presentation and communication skills anchored on the content that they themselves created. This learning design therefore develops their cognitive abilities, interpersonal skills, socio-civic awareness, and practical skills which can be utilized across the curriculum. Therefore, this reflective-action research proves the effectiveness of the IQBLP as an outcomes-based instructional approach which promotes ICC and global communication skills of 21st century learners.

The merits of a structured inquiry-based learning project should be considered during syllabi development as a methodology that will promote active learning and facilitate the realization of global communication goals of 21<sup>st</sup> century education. An allowable amount of demographic and psychographic data of learners be made available for teachers to facilitate a more tailored implementation of inquiry-based learning through which the goals, and objectives of the topics for authentic learning will be addressed and the outcome may be utilized in real-life situations. The strengths of inquiry-based learning design, as it is anchored on the Learner-Centered Approach, be adapted for lessons that would allow students to utilize critical thinking, reconstruction, deconstruction, and inductive and deductive reasoning skills among others. Policies and decision to adopt IBL is informed by this study, and if such approach be considered a series of training must be provided the faculty to effectively design and manage such. Lastly, further studies on the implementation of inquiry-based learning in other subjects can be conducted, with reference to the findings and design of this action-reflection.

## REFERENCES

1. Albion, P. (2015). Project-, problem-,and inquiry-based learning. University of South Queensland. Retrieved from [https://eprints.usq.edu.au/27878/1/Albion\\_Ch19\\_A\\_V.pdf](https://eprints.usq.edu.au/27878/1/Albion_Ch19_A_V.pdf)
2. Arslan, K., & Costu, F. (2021). Web 2.0 Applications in the Teaching Process: A Swot Analysis. *Shanlax International Journal of Education*, 460-479. doi:10.34293/education.v9i14.4238
3. Berger, P., & Luckmann, T. (1991). *The Social Construction of Reality*. Penguin Books.
4. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
5. Bruner, J. (1960). *The Process of Education*. Cambridge; MA: The President and Fellows of Harvard College.
6. Bybee, R., & Landes, N. (1990). Science for life & living: An elementary school science program from the Biological Sciences Curriculum Study. *The American Biology Teacher*, 52(2), 92-98.

7. Chen, G. M. (2005). A Model of Global Communication Competence. *China Media Research, 1*, 3-11. Retrieved from <http://www.wdw.chinamediaresearch.net/index.php/back-issues?id=42>
8. Child Australia. (2017). *WHAT IS PEDAGOGY? How does it influence our practice?* Retrieved from Child Australia.org.au: <https://www.childdustralia.org.au/wp-content/uploads/2017/02/CA-Statement-Pedagogy.pdf>
9. Commission on Higher Education. (2013). *CMO No. 20, s. 2013*. Retrieved from "General Education Curriculum: Holistic Understanding, Intellectual and Civic Competencies: <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-No.20-s2013.pdf>
10. Communication in the 21st Century. (2020). SAGE. Retrieved from [https://us.sagepub.com/sites/default/files/upm-assets/106726\\_book\\_item\\_106726.pdf](https://us.sagepub.com/sites/default/files/upm-assets/106726_book_item_106726.pdf)
11. Corlette, S., & Mavin, S. (2018). Reflexivity and Researcher Positionality. In C. Cassel, A. Cunliffe, & G. Grandy (Eds.), *The Sage Handbook of Qualitative Business and Management Research Methods* (pp. 377-389). Sage. Retrieved from [https://eprints.ncl.ac.uk/file\\_store/production/242880/44F33FAF-5A18-44BD-90F7-C741D77B03ED.pdf](https://eprints.ncl.ac.uk/file_store/production/242880/44F33FAF-5A18-44BD-90F7-C741D77B03ED.pdf)
12. Dampson, D. G., Addai-Mununkum, R., Apau, S. K., & Benti, J. (2020). COVID-19 and Online Learning: A SWOT Analysis of Users' Perspectives on Learning Management System of University of Education, Winneba, Ghana. *International Journal of Learning, Teaching and Educational Research*. doi:doi.org/10.26803/ijlter.19.9.20
13. Danzinger, K. (2015). Introspection: History of the Concept. In *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed., Vol. 12, pp. 7888-7891). Elsevier. doi:10.1016/B0-08-043076-7/00129-7
14. Dewey, J. (1910/1933). *How we think*. Buffalo, NY: Prometheus.
15. Duran, L. B., & Duran, E. (2004). The 5E Instructional Model: A Learning Cycle Approach. *The Science Education Review, 3*(2). Retrieved from <https://files.eric.ed.gov/fulltext/EJ1058007.pdf>
16. Farrell, T. S. (2008, October). Reflective Practice in the Professional Development of Teachers of Adult English Language Learners. *CAELA Network Brief*. Washington, DC: Center for Applied Linguistics. Retrieved from <https://files.eric.ed.gov/fulltext/ED505394.pdf>
17. Farrell, T. S. (2018). Reflective Practice for Language Teachers. In J. I. Lontas (Ed.), *The TESOL Encyclopedia of English Language Teaching* (1st ed., pp. 1-6). John Wiley & Sons. doi:10.1002/9781118784235.eelt0873
18. Felder, R. M., & Brent, R. (2009). Active Learning: An Introduction. *ASQ Higher Education Brief, 2*(4). Retrieved from [https://www.researchgate.net/publication/242102584\\_Active\\_learning\\_An\\_introduction](https://www.researchgate.net/publication/242102584_Active_learning_An_introduction)
19. Gibbs, G. (1988). *Learning by doing and learning methods*. Oxford: Further Education Unit, Oxford Polytechnic.
20. Gravett, K., Taylor, C. A., & Fairchild, N. (2021). Pedagogies of mattering: re-conceptualising relational pedagogies in higher education. *Teaching in Higher Education, Critical Perspectives*. doi:10.1080/13562517.2021.1989580
21. Haynes, K. (2012). Reflexivity in qualitative research. *Qualitative Organizational Research: Core Methods and Current Challenges*. Retrieved from [https://www.researchgate.net/publication/286352842\\_Reflexivity\\_in\\_qualitative\\_research](https://www.researchgate.net/publication/286352842_Reflexivity_in_qualitative_research)
22. Hennessey, E., & Mueller, J. (2020). Teaching and Learning Design Thinking (DT): How do Educators See DT fitting into the Classroom? *Canadian Journal of Education, 43*(2). Retrieved from <https://files.eric.ed.gov/fulltext/EJ1262622.pdf>
23. Herrington, A., & Herrington, J. (2008). What is an Authentic Learning Environment? *Authentic Learning Environments in Higher Education*. doi:10.4018/978-1-59140-594-8.ch001
24. Higgins, S. (2014). Critical Thinking for 21st-Century Education: A Cyber-Tooth Curriculum? *Quarterly Review of Comparative Education, 44*(4), 559-574. Retrieved from <https://eric.ed.gov/?id=EJ1047758>
25. Howard, F. (1993). *Global Communication and International Relations*. Belmont, CA: Wadsworth. Retrieved from [https://www.academia.edu/29767596/Global\\_Communication\\_and\\_International\\_Relations](https://www.academia.edu/29767596/Global_Communication_and_International_Relations)
26. Imagine Education. (2022). *Innovative Teachers - 21st Century Skills: Critical Thinking*. Retrieved from <https://services.just.edu.jo/Elearning/learningsuite/Software/CriticalThinking.pdf>
27. Ismail, N., & Albakri, I. m. (2006). Inquiry-Based Learning: A New Approach to Classroom Learning. *English Language Journal, 2*(1), 13-24. Retrieved from [https://www.researchgate.net/publication/261914217\\_Inquiry-](https://www.researchgate.net/publication/261914217_Inquiry-)

- Based\_Learning\_A\_New\_Approach\_to\_Classroom\_Learning
28. Ismailov, M. (2021). Virtual exchanges in an inquiry-based learning environment: Effects on intra-cultural awareness and intercultural communicative competence. *Cogent Education*, 8(1). doi: 10.1080/2331186X.2021.1982601
  29. Johnson, S., & Cuevas, J. (2016). The Effects of Inquiry Project-Based Learning on Student Reading Motivation and Student Perception of Inquiry Learning Process. *Georgia Educational Researcher*, 13(1). doi:0.20429/ger.2016.130102
  30. Keshavarz, M. (2011). Measuring Course Learning Outcomes. *Journal of Learning Design*, 4(4). Retrieved from <https://files.eric.ed.gov/fulltext/EJ963323.pdf>
  31. Khalaf, B. K., & Zin, Z. B. (2018). Traditional and Inquiry-Based Learning Pedagogy: A Systematic Critical. *International Journal of Instruction*, 11(4), 545-564. doi:10.12973/iji.2018.11434a
  32. Killick, D. (2016). The role of the hidden curriculum: institutional messages of inclusivity. *Journal(of Perspectives(in(Applied(Academic(Practice*, 4(2), 20-24. doi:0.14297/jpaap.v4i2.203
  33. Knowles, E., & Kerkman, D. (2007). An Investigation of Students Attitude and Motivation towards Online Learning. *Student Motivation*, 2. Retrieved from <https://files.eric.ed.gov/fulltext/EJ864281.pdf>
  34. Laal, M., Laal, M., & Kermanshahi, Z. K. (2012). 21st Century Learning; Learning in Collaboration. *Social Behavioral Sciences*, 47, 1696-1701. doi:10.1016/j.sbspro.2012.06.885
  35. Lee, F. (2021). *Why I don't like Gibbs' Reflective Cycle in reflective practice*. Retrieved from Dr Lee Fallin: <https://leefallin.co.uk/2021/10/why-i-dont-like-gibbs-reflective-cycle-in-reflective-practice/>
  36. Leitch, R., & Day, C. (2000). Action research and reflective practice: towards a holistic view. *Educational Action Reserach*, 8(1), 179-193. doi:10.1080/09650790000200108
  37. Longhurst, G. J., Stone, D. M., Dulohery, K., Scully, D., Campbell, T., & Smith, C. F. (2020). Strength, Weakness, Opportunity, Threat (SWOT) Analysis of the Adaptations to Anatomical Education in the United Kingdom and Republic of Ireland in Response to the Covid-19 Pandemic. *Anatomical Science Education*. doi:doi.org/10.1002/ase.1967
  38. Loughran, J. (2010). Reflection through Collaborative Research and Inquiry. In H. o. Inquiry. doi:10.1007/978-0-387-85744-2\_20
  39. Martin, J. N., & Nakayama, T. K. (2010). *Intercultural Communication in Contexts* (5th ed.). Boston, Massachusettes: McGraw-Hill Higher Education.
  40. Middleton, R. (2017). Critical Reflection on Practice Development. *International Practice Development Journal*. Retrieved from [https://www.fons.org/Resources/Documents/Journal/Vol7No1/IPDJ\\_0701\\_4.pdf](https://www.fons.org/Resources/Documents/Journal/Vol7No1/IPDJ_0701_4.pdf)
  41. Mikhailynshin, H., Kondur, O., & Serman, L. (2018). Innovation of Education and Educational Innovations in conditions of modern higher education insitution. *Journal of VasyI*, 5(1). doi:10.15330/jpnu.5.1.9-16
  42. Palaganas, E. C., Sanchez, M. C., Molintas, M. V., & Caricativo, R. D. (2017). Reflexivity in Qualitative Research: A Journey of Learning. *The Qualitative Report*, 22(2), 426-438. doi:10.46743/2160-3715/2017.2552
  43. Pedastea, M., Mäeotsa, M., A.Siimana, L., Jongb, T., Riesenb, S. A., T.Kampb, E., . . . Tsourlidakid, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review*, 47-61. doi:10.1016/j.edurev.2015.02.003
  44. Picciano, A. (2017). Theories and Frameworks for Online Education: Seeking an Integrated Model. *Online Learning*, 21(3), 166-190. doi:10.24059/olj.v21i3.1225
  45. Reese, H. W. (2011). The Learnig-by-doing Principle. *Behavioral Development Bulletin*, 17(1), 1-19. doi:10.1037/h0100597
  46. Rivera, R. C., & Delos Santos, E. N. (2022). Global Communication. Manila.
  47. Rivera, R. C., & Delos Santos, E. N. (2022). Inquiry Learning: Building 21st Century Skills. *Institutional Faculty Reserach Project*. Manila: De La Salle-College of Saint Benilde.
  48. Safonov, M. A. (2021). E-Learning Application Effectiveness in Higher Education. General Research Based on SWOT Analysis. *ICEMT 2021: 2021 5th International Conference on Education and Multimedia Technology*. doi:10.1145/3481056.3481096
  49. Saikia, R., & Bezborah, P. (2014). Quality and Relevance in Higher Education. *International Journal of Scientific & Engineering Research*, 5(2). Retrieved from <https://www.ijser.org/paper/QUALITY-AND-RELEVANCE-IN-HIGHER-EDUCATION.html>
  50. Tabuena, A. C. (2020). Students' perception in the implementation of the IMRaD structure approach and its implications on the research writing process. *International Reserach Journal of Research Studies in Education*, 9(7), 55-65. doi:10.5861/ijrse.2020.5913
  51. Tannen, D. (1985). Cross-Cultural Communication. In D. A. Handbook of Discourse Analysis. Retrieved from

[https://www.academia.edu/1748462/Cross\\_Cultural\\_Communication](https://www.academia.edu/1748462/Cross_Cultural_Communication)

52. Timmins, F., Murphy, M., Howe, R., & Dennehy, C. (2013). "I hate Gibb's reflective cycle 1998" (Facebook©2009): Registered nurses' experiences of supporting nursing students' reflective practice in the context of student's public commentary. *Procedia - Social and Behavioral Sciences*, 93, 1371-1375. doi: 10.1016/j.sbspro.2013.10.046
53. University of Minnesota. (2015). *8.4 Intercultural Communication Competence*. Retrieved from Communication in the Real World: <https://open.lib.umn.edu/communication/chapter/8-4-intercultural-communication-competence/#:~:text=Intercultural%20communication%20competence%20%28ICC%29%20is%20the%20ability%20to,self-%20and%20other%20knowledge%2C%20and%20tolerance%20for%20uncertainty>.
54. Vygotsky, L. S. (1998). The Problem of Age. (R. W. Rieber, Ed.) *The Collected Works of L.S. Vygotsky, Child Psychology*, 5.
55. Weimer, M. (2002/2013). *Learner-centered teaching: Five key changes to practice* (2nd ed.). San Francisco: CA: John Wiley & Sons. Retrieved from <https://dfpa.ksu.edu.sa/sites/tlap.ksu.edu.sa/files/attach/ref17.pdf>
56. Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design*. Alexandria, VA: Association for Supervision and Curriculum Development.
57. Wijngaards-de Meij, L., & Merx, S. (2018). Improving curriculum alignment and achieving learning goals by making the curriculum visible. *International Journal for Academic Development*, 23(3). doi:10.1080/1360144X.2018.1462187