BS Learning Science & Design

HANDBOOK

Bago ang lahat, edukasyon!

This phrase expresses the commitment of the Gokongwei Brothers School of Education and Learning Design to the twin goals of prioritizing and innovating education in the Philippines.

BS Learning Science & Design

HANDBOOK

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CONTENTS

Dear student,

On behalf of our faculty, I welcome you warmly to our BS Learning Science and Design Program (BS LEARN)! Congratulations for making this significant decision to join BS LEARN and learn with us!

We are excited to welcome you to the Ateneo de Manila University and to the Gokongwei Brothers School of Education and Learning Design (GBSEALD). As you may know, we are the newest school of the Ateneo de Manila University, and we are indeed "young, scrappy, and hungry" about our mission in education. Our school's battle cry is "Bago ang lahat, edukasyon!" We are committed to prioritizing and innovating education because we believe in the difference that it can make in our country.

We take seriously our responsibility to accompany and guide you in the next four years. We have very fond memories of our college lives, and we have every intention to do whatever we can to help you create wonderful memories in Ateneo and GBSEALD. We have painstakingly designed a program that we believe will challenge you and prod you to learn as much as you can while you enjoy the unique school community that is the Ateneo!
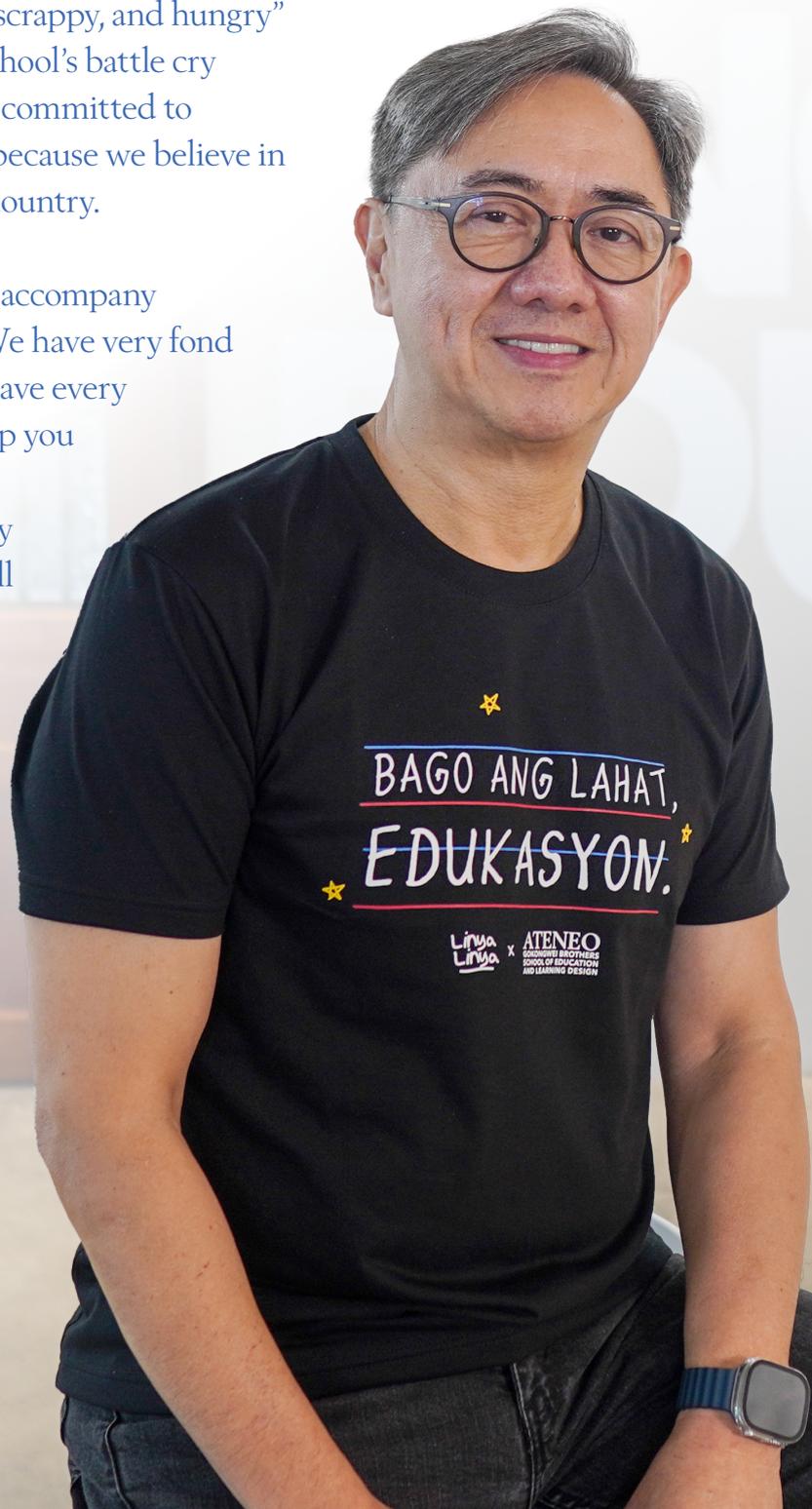
Consider GBSEALD your home for the next four years! We are here for you! AMDG!

Fr. Johnny C. Go, SJ, EdD
Founding Dean
Gokongwei Brothers School of
Education and Learning Design

Bachelor of Science in Learning Science & Design

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Not all educators today teach in classrooms. Some of them are in boardrooms sharing their organization's mission and training employees to become more committed and effective stakeholders. Some of them design onboarding programs for human resources, helping new hires unlock their potential and veterans break their ceilings. Some of them create apps that deliver content and encourage users to create their own.

GBSEALD's BS LEARN has been designed precisely to produce learning professionals in every field.

BS LEARN is an innovative undergraduate program that breaks the mold of the traditional bachelor's degree in education. Rapidly improving digital technology has been transforming not only the educational landscape, but also the nature of learning itself. Learning in today's world is no longer confined to the traditional classroom. More and more, every place is a classroom, and every moment can be an opportunity for learning. Learning happens not just as a result of "teaching content" but of effective learning design.

Designing learning based on the principles of the learning sciences is increasingly acknowledged as a crucial competence among educators—or any coach of learning, for that matter. It entails a re-conceptualizing of the role of the educator. More than simply being content experts (the traditional default role), educators are now also called to be specialists of the learning sciences and designers of engaging and effective learning experiences for their students.

BS LEARN has been designed to form the learning professionals of the future. Not only is it Ateneo de Manila's very first undergraduate program in education, but it is also one that offers much more than the usual education degree. Apart from Ateneo de Manila's core curriculum, the program will include foundational courses in the Learning Sciences, Learning Technologies, and Instructional Design, as well as the requisite Professional Education Courses that will prepare our students for the Philippine Professional Regulation Commission's (PRC's) Licensure Exam for Professional Teachers (LEPT) should they decide to pursue a career in professional teaching.

Moreover, unlike those from other traditional education undergraduate courses offered in the country, the career paths of our graduates are not limited to the teaching profession in basic education or higher education. Rather, BS LEARN graduates will be equipped for alternative careers that involve instructional and learning design beyond formal education—such as online learning, professional development, and human resource training, among others.

BS LEARN will provide a deliberately multidisciplinary approach made possible by a collaboration with other departments and schools in the university. Key faculty from selected departments have agreed to collaborate in offering courses in their respective disciplines so that students are given a wide selection of disciplinary tracks such as Science, Math, English, Filipino, the Social Sciences, Guidance and Counseling, and Religious/Values Education, School Entrepreneurship, Human Resource Training, and Education Technologies.

In line with GBSEALD's strategy to produce an academically and professionally elite breed of educators, the program is for students who show the greatest potential to be educational leaders who, through both competence and character, can contribute to raising the quality of education in the country.

Desired Program Learning Outcomes

After you complete your program, you will be expected to:

PLO 1: SCIENCE OF LEARNING

Apply your grasp of theories and principles of human development, learning, and cognition to formulate strategies and interventions to advance learning effectively

PLO 2: ART OF LEARNING

Use your proficiency in instructional design and draw from a wide repertoire of curricular, pedagogical, and assessment knowledge and skills to solve specific learning problems

PLO 3: INNOVATION FOR LEARNING

Employ emerging technologies to conceptualize and create new learning environments and experiences to enhance learning and teaching, given the contexts and especially constraints of the learner

PLO 4: LEADERSHIP FOR LEARNING

Draw from your understanding of contemporary culture and society (especially social and cultural perspectives on learning) to analyze issues in education, including its organizational aspects based on a desire to make a contribution to a reform that ensures inclusive and quality education

As graduates of BS LEARN, you are expected to use these competences to become effective leaders of learning who can provide education that is backed by the learning sciences, inovatively designed, enhanced by technology.

In addition, given the Philippine educational context, we hope you will be able to contribute to solving learning problems in various contexts–including and especially the educational challenges in Philippine public basic education.

Overview of the Curriculum

Apart from Ateneo de Manila's core curriculum, the program will include foundational courses in the learning sciences, learning technologies, and instructional design, as well as the requisite Professional Education Courses that will prepare our students for PRC's LEPT should they decide to pursue a career in professional teaching.

ATENEO CORE CURRICULUM	79 units
MAJOR COURSES	48 units
The Science of Learning	15 units
The Art of Learning	12 units
Innovation for Learning	9 units
Leadership for Learning	12 units
MAJOR ELECTIVES	12 units
PRACTICUM/INTERNSHIP	6 units
ACTION RESEARCH PROJECT	6 units
PHYSICAL EDUCATION	8 units
TOTAL	159 units
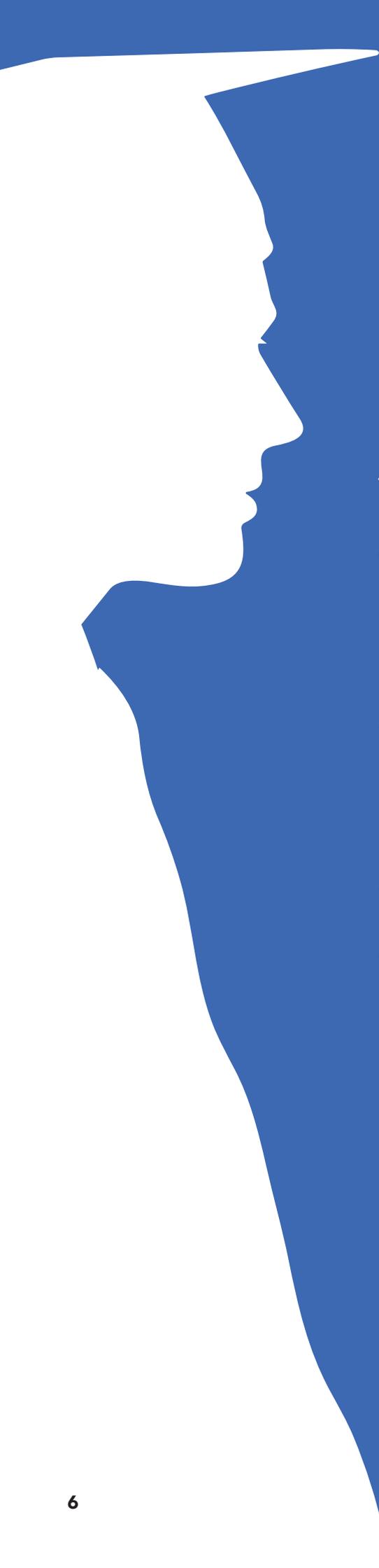
The Envisioned BS Learn Graduate

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The BS in Learning Science and Design has been conceptualized to produce someone who fits the profile of a GBSEALD graduate, as captured in our TRIBE Profile of an Ideal Graduate. TRIBE, which stands for Teachers Redefining and Innovating for Better Education, spells out five commitments.

I commit to...

the **CHILD** in every learner,

the **CRAFT** of learning and teaching,

CHANGE for better education,

service of **COUNTRY**, and

a higher **CALLING**.

A TRIBE Educator...

• Is committed above all to the Learner and employs an active and interactive learner-centered approach that focuses on learning rather than teaching • Shows personal concern for every individual student in the spirit of the Jesuit *cura personalis*	**COMMITMENT** **TO THE CHILD IN EVERY LEARNER** **KEY ROLE** **AS A FORMATOR OF PERSONS**
• Is committed to reflective practice and one's continued professional and personal self-development • Is passionate about learning and inspires students with this passion • Shows mastery of both the science and art of learning and teaching including the effective use of educational technology.	**COMMITMENT** **TO THE CRAFT OF LEARNING AND TEACHING** **KEY ROLE** **AS A MASTER OF LEARNING AND TEACHING**
• Is committed to instructional leadership, improving education not just within the boundaries of one's classrooms, but beyond • Shares one's gifts and "wisdom of practice" with others to improve • Strives to be a scholarly practitioner by drawing on— and when possible, doing research to inform one's practice and to address challenges in Philippine education	**COMMITMENT** **TO CHANGE FOR BETTER EDUCATION** **KEY ROLE** **AS A LEADER OF EDUCATION**

A TRIBE Educator...

COMMITMENT	• Is committed to a mission of nation-building "one Filipino learner at a time"
TO SERVICE OF COUNTRY	• Actively participates and advocates for educational reform in the country, specifically in relation to policy making and the ongoing task of improving access and quality, especially in public education
KEY ROLE	
AS A BUILDER OF NATION	

COMMITMENT	• Is committed to the work of education not just as a job but as a personal vocation, not just as a means of livelihood but as a source of meaning in one's life
TO A HIGHER CALLING	• Takes pride in one's work and contributes to building the social status of fellow educators in the tradition of the maestros of the 19th-century Jesuit Escuela Normal
KEY ROLE	• Knows that one's person is our best instrument as teachers because "we teach who we are" (Palmer, 2007)
AS "SALT OF THE EARTH" (MATTHEW 5:13)	

The BS LEARN Action Research Framework

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As the culmination of the BS LEARN Program, students are expected to collaborate in teams (of two to three) to engage in **action research** to demonstrate their competence in employing theories and principles of learning to propose interventions to achieve learning goals and/or solutions to real-world learning problems. You will make a public presentation and defense of your research.

The BS LEARN action research project has the following key features:

IT IS A FORM OF PRACTITIONER RESEARCH.

Its aim is not primarily theoretica, but practical work: To design, implement, and evaluate an intervention intended to achieve a **learning goal** or solve an actual **learning problem** encountered in professional practice—whether in the classroom or outside.[1] It is by no means intended as research "that produces nothing but books" (Lewin, 1946, as cited in Townsend, 2014, p. 7), but one that addresses real-world (vs. textbook) problems.

IT IS NO LESS A SCHOLARLY ENTERPRISE.

The way a proposed intervention is conceptualized, implemented, and evaluated ought to be grounded in theory (Reason and Bradbury, 2011). It need not, however, be overly constrained by it:

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1   Action research is usually an insider investigation, not one undertaken by external researchers with an outsider's perspective (Carr & Kemmis, 1986). However, BS LEARN students are clearly not insiders in the organizations where their action research will be conducted.

...the challenge for educator-researchers is to develop a research plan and related activities that are focused and manageable to carry out. While human beings like structure and definitions, especially when we encounter new experiences, educators-as-researchers frequently disregard the accepted frameworks related to research and rely on their own subjective knowledge from their pedagogical experiences when taking on the role of educator-researcher in educational settings. Relying on subjective knowledge enables teachers to engage more effectively as researchers in their educational context. Educator-researchers especially rely on this subjective knowledge in educational contexts to modify their data collection methodologies. Subjective knowledge negotiates the traditional research frameworks with the data collection possibilities of their practice, while also considering their unique educational context. This empowers educators as researchers, utilizing action research, to be powerful agents for change in educational contexts (Clark et al., 2020, pp. 70-71, emphasised added).

THE PROJECT ENTAILS REFLECTIVE PRACTICE[1].

It entails a critical inquiry into practice and a careful examination of the impact of interventions in one's zone of practice (Riel, 2016). Action research is based primarily on the evaluation of how past learning interventions have fared in light of their target learning outcomes.[2]

The formulation of the action research question, the research design, and the analysis and interpretation of findings are expected to be consistent with a **Critical Realist Meta-theory** and avoid the pitfalls of **relativism**, **positivism**, **determinism**, and **reductionism**.

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1 Reflection is a defining feature of Jesuit education. (IPP#31)

2 In Ignatian Pedagogy, evaluation refers to the educator's review of the learning-teaching cycle based on data (including student feedback) to inform instructional decisions. Action research is undertaken precisely to collect data for this evaluative task. See Go & Atienza (2019) and IPP (1993) for a fuller discussion of Ignatian Pedagogy.

- Ideally, it leads to **social action** (Lewin, 1946)—or it is at least aimed at the flourishing of individuals and communities (Reason and Bradbury, 2011).[1] Given such a goal, action research analysis needs to be expanded beyond the level of human agency to include its interplay with structure and culture (Archer, 2020; Buch-Hansen & Nielsen, 2020).

During their field study and practice teaching courses, BS LEARN students will be immersed in a professional setting related to their selected tracks (school, industry, online, etc.). Not only will they be provided opportunities to learn from actual practitioners who are facing real-world challenges, but they will also be expected to collaborate with these professionals and to be trained to design, implement, and evaluate solutions to these problems.

The Framework

The BS LEARN action research follows the principles of
Ignatian Pedagogy.

- It begins with an **Evaluation** of one's practice related to a learning goal, problem, or issue.
- It examines the **Experience - Reflection - Action** cycle undergone by the learners: What has been problematic? What interventions have been attempted so far, and what solutions can be proposed in light of the results of these past interventions?
- The starting point of any proposed intervention is the **Context** of the learners concerned as well as the organization: What are their needs, resources, and constraints that need to be taken into consideration as we design an intervention to the learning goal or problem?

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1   One of GBSEALD's aims in the spirit of Jesuit education is to form educators "with and for others" committed to promoting human development (CJE 1986, #76).

- The study entails a second **Evaluation** of the new cycle of Experience - Reflection - Action, implemented as part of the proposed intervention.

Since the action research project is goal- and problem-focused, the investigators are expected to employ "**designerly ways of knowing**" (Cross, 2006).

- Like all professions, teaching and other learning professions are considered "sciences of the artificial" in contrast to the natural sciences: They entail **design**, defined as a search for prospective solutions for a given problem, whether the output is a physical artifact (like buildings and clothing) or an intervention (like a medical diagnosis, a lesson plan) (Simon, 1996; Schön, 1983; Schön, 1987).

- More than just a technical expert, every professional needs to be a **reflective practitioner** because real-world practice situations are "indeterminate," characterized by novelty, instability, complexity, and value conflicts (Schön, 1983).

  - Problems in practice require an approach different from that of the natural sciences: Whereas the scientist is focused on understanding the nature of the problem, the professional-as-designer intends primarily to produce a **practical solution** (Hammond, 2021).

  - Problems encountered in these "indeterminate zones of practice" are ill-defined problems, which, unlike clear-cut technical questions, defy single, often self-evident solutions (Go, 2012). For this reason, **problem-setting** is even more crucial—often more crucial than problem-solving. Formulating a problem is itself a problem-solving task (Koh et al., 2015).

  - To solve problems of practice, one engages in **reflective design** defined as "a reflective conversation with the materials of the situation"—a process of

implementation that involves improvisation and experimentation, a back-and-forth aimed at improving proposed solutions based on the feedback received (Schön, 1983).

- Reflective design involves **frame experimentation**: a search for new understandings of the learning goal or problem being addressed. Every solution designed is based on an initial diagnosis of the issue at hand. As the intervention is implemented and revised based on their results, initial hypotheses about the causes and conditions of the problems are revised. Hence, action research is unapologetically practical and solution-focused, but it aims no less at knowledge building, an engagement with ideas in the hope to understand the nature of the problem at hand (Go, 2012; Koh et al., 2015).

Cross (2006) describes the process in this manner:

The professional-as-designer "quickly [identifies] a problem frame and [proposes] a solution conjecture" (p. 91), aware that goals often may change throughout the design activity. Problem framing then becomes a "co-evolution of problem and solution," with the designer searching for a "matching problem-solution pair, rather than a propositional argument from problem to solution" (p. 91).

Elements of the Action Research

As early as their freshman year, BS LEARN students are encouraged to identify a **learning problem or issue** based on their interest and focus on it as they apply what they have learned from their various major courses. For their EDUC 198.1 and EDUC 198.2 courses, they will be asked to do the following:

- Formulate a significant **learning topic or question** to be submitted for approval of their instructor and if possible, the professionals in their selected field of study (classroom, corporate, online, etc.).
- Conduct a **critical review of related literature** to explore the issue and undertake a systematic inquiry into the problem or issue, as well as to identify gaps in the knowledge base, if any.
- Engage in **reflective design** by: (a) **framing** the problem, (b) hypothesizing an **initial diagnosis** of the situation, (c) proposing an **intervention** to address the problem based on the research literature and one's initial diagnosis/hypothesis in order (d) to achieve the **goal**, and when possible, (e) **evaluating** the implementation for further recommendations.
- **Collaborate** with professionals in their field of practice to improve the proposal and to implement the intervention.
- **Gather and analyze the necessary data** to assess the success of the intervention, and identify patterns in the collected data, if any.
- **Theorize** the reason(s) for the success or failure of the intervention to address the learning problem or issue and **reformulate** their initial diagnosis and understanding.
- Summarize the findings and recommendations through **effective academic communication** (writing and presentation).
- **Share the results** of the action research with a wider public that ideally includes the collaborators in the organization where one conducted the study.

About GBSEALD

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The Gokongwei Brothers School of Education and Learning Design (GBSEALD) constitutes Ateneo de Manila's strategic response to the challenges of Philippine education and enables the university to put education front and center in its agenda. Ateneo de Manila's ninth and newest Higher Education School traces its origin in the Escuela Normal de Maestros established by the Jesuits in Intramuros, Manila 155 years ago, the very first teacher education institute in the Philippines. The school emerged after almost three years of extensive research and consultation among stakeholders within the university, as well as other potential educational partners.

Our Ten Principles of Learning, Teaching, and Formation

1 **The heart of education.**
Education is not just about the acquisition of knowledge (recall or mastery of content), but more importantly, about critical understanding, real-world application, and most of all, character formation.

2 **Cura personalis.**
Well-being, motivation, and emotions are critical to learning.

3 **Meeting learners where they are.**
All learners—no matter the background and starting point—can learn and have something valuable to contribute to the learning.

4 **Magis.**
We need to be stretched and challenged if we are to learn and grow. High expectations lead to high performance.

5 **A Learning Sanctuary.**
GBSEALD will provide a safe space for learning and a community that supports and challenges us to learn to think independently and critically. It is a space where we welcome different perspectives, rehearse our ideas out loud, experiment with our practice, and receive reasonable and respectful feedback from fellow learners and mentors.

6 **Learning as Active and Interactive.**
We learn best by doing and by interacting with fellow learners. Content is best not "dumped" on students, but offered in a way that encourages our learners to interact with it and to learn it with other learners. Crucial in learning and teaching is designing learning environments and experiences in such a way that the thinking and learning processes are prioritized over the product (content).

7 **Learning as Meaning Making.**
Our learning becomes meaningful when we actually interact with the new ideas and concepts, unpack them, wrestle with them, connect them to others (even from other disciplines), add to them, and refract them as our own.

8 **Assessment for Learning and for Transfer.**
We learn more when we are given constructive feedback (formative) and the assessment entails application in a real-world context (authentic).

9 **Companions in the Journey.**
We are building a learning community where each one is seen and feels that s/he belongs. Learning in GBSEALD will not be an isolated journey. We will be personally accompanied in a learning community of like-minded and supportive companions and coaches.

10 **Education for the Greater Good.**
In our learning community, we will be guided not so much by what we want, but by what others need— and for the believers among us, by what God wants for us and the world.

A Critical Realist Meta-theory

GBSEALD has adopted an explicit meta-theory that can inform and guide our study of social realities in the field of education in particular and in the social sciences in general. A meta-theory refers to a set of assumptions about reality and human knowing that have an impact on the way we conduct our investigations and even the way we frame our intellectual conversations. A conscious and critical examination of these ontological and epistemological beliefs promotes consistency and clarity in our scholarship.

For its meta-theory, Ateneo de Manila's School of Education and Learning Design has adopted Critical Realism, a philosophy of the sciences originated by Roy Bhaskar. Envisioned as an underlaborer for the sciences, it is by no means a substitute for substantive research. Rather, its value lies in "clearing the ground" by helping us clarify our language and regulate our theoretical work (Bhaskar, 1989).

Critical realism serves as a much-needed corrective to the two extreme tendencies of **empiricism** and **post-modernism**, while affirming what is valid and valuable in both.

Concretely, critical realism invites the researcher to do the following:

- *Respect* **social realities**: By leading us towards a disposition of **reverence towards reality**, characterized by a deference to data and a fidelity to facts, and keeping us from falling down the slippery slope of **relativism**.[1]

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1   Critical realism makes the crucial distinction between the transitive work of science and the intransitive world that science studies, prohibiting the relativism of the former (**epistemic relativism**) from trickling into the latter (**ontological realism**) and in the process, building the case for making—and evaluating—claims about the world (**judgmental rationality**).

- **Detect social realities *beyond what is observable***: By challenging us to expand our horizon of reality **beyond the empirical**, avoiding the trap of **positivism**. [1]

- **Conceptualize and theorize about social realities *in their complexity***: By pushing us to describe and explain social realities without lapsing into **reductionism** or **determinism** and in the process, distorting them. [2]

To construct causal explanations about these social realities, we draw from Margaret Archer's **morphogenetic approach**, a helpful explanatory framework that offers us a way of accounting for the three primary causal powers in the social world—**structure, culture,** and **agency**—and for showing how the interplay among them can result in either social stability (morphostasis) or change (morphogenesis) (Archer, 2008).[3]

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1   Through its concept of **depth stratification**, critical realism rejects **positivism** by insisting that reality cannot be limited to our experience or knowledge of it.

2   The critical realist recognition of emergent properties cautions us against distorting phenomena by reducing them into their more basic and therefore understandable components and properties. The notion of the **open system** is a refutation of **determinism** because it asserts that outside the science laboratory, causal powers normally interact and they end up co-determining events. Social phenomena, therefore, require multi-causal explanations that take the different causal powers into account.

3   Because of the concepts of emergence and the open system, our explanations must take into account not only individuals' decisions and actions (**agency**), but also the **structure** and **culture** that enables or constrains these decisions and actions. Structure refers to the social relations among agents (their roles and positions, interests, and relative power), while culture refers to concepts, beliefs, paradigms, etc. that have their impact on agents. Needless to say, agency also has a corresponding effect on structure and culture.
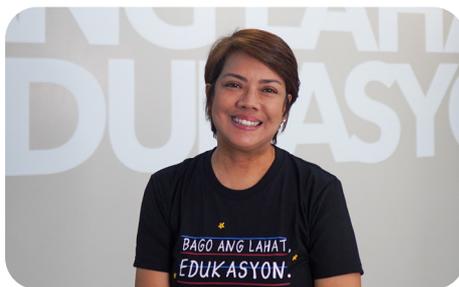
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I commit to
the CHILD in every learner,
the CRAFT of learning and teaching,
CHANGE for better education,
service of COUNTRY, and
a higher CALLING.

Bago ang lahat, edukasyon!

GOKONGWEI BROTHERS SCHOOL OF EDUCATION AND LEARNING DESIGN

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