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VALUE CO-CREATION IN HIGHER EDUCATION LEARNING: A DIALOGUE BETWEEN EDUCATIONAL PSYCHOLOGY AND SERVICE-DOMINANT LOGIC

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Introduction

The growing expectation among higher-education students for active and participatory experiences has driven pedagogical changes and sparked an expanding debate on engagement, partnership, and co-creation in higher education (Bovill et al., 2016). However, such changes require a framework that can support the understanding, planning, and evaluation of these initiatives.

On the one hand, recent models focused on the dynamics of value co-creation, especially in teaching, offer new lenses for understanding collaboration and the mutual creation of value between students and educational institutions (Vargo & Lusch, 2004, 2008; Bovill et al., 2016; Dollinger & Lodge, 2019). On the other hand, established learning models such as the 3P Model provide a pathway for analyzing teaching/learning systems (Biggs, 1999; Biggs & Tang, 2007).

This latter perspective drove research beginning in the1970s, influenced by Cognitive Psychology, introduced an active perspective on learning in higher education and identified qualitative differences in the way students approached reading an academic article (Marton & Säljö, 1976, 1997). Within this theoretical stream there has been a holistic and active concern for learning, encompassing aspects such as content, discipline, curricular organization and structure, assessment, student experiences, institutional environment, subject matter, disciplinary characteristics, assessment, student experiences, and institutional culture (Entwistle et al., 2002; Marton et al., 1997), in an effort to grasp the complexity of learning in higher education, given that it results from the interaction of multiple factors (Biggs, 1999; Biggs & Tang, 2007).

The strength of this conceptualization lies in understanding the different ways students tackle academic work and how various factors influence both process and outcomes (Entwistle & Tait, 1990; Entwistle et al., 2002). It highlights that learning is not restricted to content (*what*) but is deeply intertwined with the manner (*how*) and motivations (*why*) behind it, shaped by students' own beliefs about learning (Entwistle, 1991; Biggs, 1999). This multi-layered view can inform improvements in teaching (Entwistle & Smith, 2002; Marton, 1976; Ramsden, 1979).

Yet in higher education a shift is under way in the traditional perception of how institutions, instructors, and students interact in the educational process (Giner et al., 2018; Araújo et al., 2021). New perspectives regard value as a phenomenon arising from the active integration of the resources, knowledge, and experiences of all participants, that is a process of co-creation (Araújo et al., 2021; Díaz-Méndez & Gummesson, 2012). Seen in this light, co-creation offers a way to avert the utilitarian risk of framing the student as a mere consumer, redirecting education toward quality and the interests of every stakeholder (Brabilla & Damacena, 2012).

Recent reviews show that studies on value co-creation in higher education remain largely anchored either in service-marketing perspectives or in pedagogical approaches, with scant theoretical or methodological integration (Chatzara & Tsiakis, 2023; Oliveira et al., 2024). This conceptual dispersion hinders comparisons and the cross-application of evidence.

Considering this compartmentalization, articulating the constructs of the value-co-creation process in higher education with a consolidated understanding of teaching and learning becomes not only relevant but also an essential conceptual effort to explain how students co-create value and transform their learning experiences.

Indeed, progress in interdisciplinary fields depends on the rigorous development of models and propositions that integrate different theoretical frameworks in a clear, coherent, and

comprehensive way, bridging gaps in the literature and deepening the understanding of complex phenomena (Hollebeek et al., 2024). Accordingly, this essay aims to **develop an integrative conceptual framework that links the components of the Presage–Process–Product (3P) Model with elements of the Value Co-creation Model in higher education**.

Integrating these models holds significant potential for a more complete and holistic understanding of educational processes in higher education, addressing the lack of models that explicitly connect learning processes with value-creation dynamics (Bovill et al., 2016; Bovill, 2020). This proposal is therefore timely, as it retains the rigor of the learning process captured by the 3P Model while fostering greater involvement, agency, and value among the actors, that are central aspects of co-creation (Biggs & Tang, 2007; Oliveira et al., 2024)

This study presents itself as a theoretical essay with a conceptual and integrative character. By choosing this format, we adopt a reflective and critical perspective that, rather than limiting itself to traditional empirical procedures, prioritizes the construction of new analytical frameworks to address contemporary challenges (Meneghetti, 2011).

To ensure the rigor and quality of the resulting theoretical contribution, the construction of the model and the formulation of the proposed conceptual relationships were guided by the principles for developing proposition-based conceptual contributions outlined in Hollebeek et al.'s 7C framework (2024). This approach meets the need for the proposed model and its foundations to exhibit conceptual clarity, internal consistency, conciseness, contribution potential, conceptual distinctiveness, breadth, and logical coherence.

Value Co-creation and Higher Education

Value is not delivered but co-created by actors; thus, the customer becomes an active agent in service processes (Vargo & Lusch, 2004, 2008). Co-creation, in these terms, results from the joint integration and application of resources and competences in interactions (Prahalad & Ramaswamy, 2004; Lusch et al., 2008), and value is phenomenological, multidimensional, and emergent from those interactions (Vargo et al., 2017). All actors must exchange resources within a relational environment for value to arise, and it can be either co-created or co-destroyed (Zamora-Ramos et al., 2023).

From this perspective, the higher-education student can be regarded as a value co-creator; the focus therefore shifts from simple bilateral exchange to interactions that involve universities, students, and stakeholders (Petrescu et al., 2024). In this context, numerous benefits of value co-creation for both students and institutions have been documented. For students, these include the development of professional competences and employability; participatory and citizenship behaviors online in digital settings; enrichment of the student experience; acquisition of transversal skills; enhanced competence; increased autonomy and critical thinking; market adaptability; awareness of their own efforts and benefits; and more satisfactory academic and social outcomes fostered by engagement with peers, faculty, and institutional activities (Brabilla & Damacena, 2012; Giner et al., 2018; Dollinger & Lodge, 2019; Piñeiro, 2020; Beier et al., 2022; Dziewanowska & Kacprzak, 2023).

At the institutional level, co-creation strengthens student loyalty and the university's image; it also contributes to improving service quality, increasing trust in the institution, reinforcing community ties, building high levels of perceived value, raising retention rates, and disseminating positive recommendations (Piñeiro, 2020; Beier, Schmidt & Froehlich, 2022; Ávila et al., 2023).

For faculty, more intensive interactions with students generate qualitative feedback that supports pedagogical innovation and curricular enhancement; this aligns with contemporary teaching-learning trends that place the student at the centre and can even encompass the

co-design of assessment processes between instructors and learners (Díaz Méndez & Gummesson, 2012; Giner et al., 2018; Oliveira et al., 2024; Martel & Garcias, 2024).

Value co-creation in higher education is a collaborative, dynamic, and multidimensional process in which actors in the educational and institutional context actively integrate resources to generate benefits (Vargo & Lusch, 2004, 2008; Ranjan & Read, 2016; Vargo et al., 2017; Dollinger & Lodge, 2019), thereby shifting the student from a passive position to that of an active partner in constructing the educational service (Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2016).

This process simultaneously comprises co-production, students' active involvement in designing content, methods, assessments, and other pedagogical decisions, and value-in-use, the value students perceive when they apply and personalize those experiences (Ranjan & Read, 2016; Dollinger, Lodge & Coates, 2018). It yields shared benefits that emerge only during the lived learning experience and cannot simply be delivered by the institution (Vargo & Lusch, 2004, 2016; Díaz-Méndez & Gummesson, 2012).

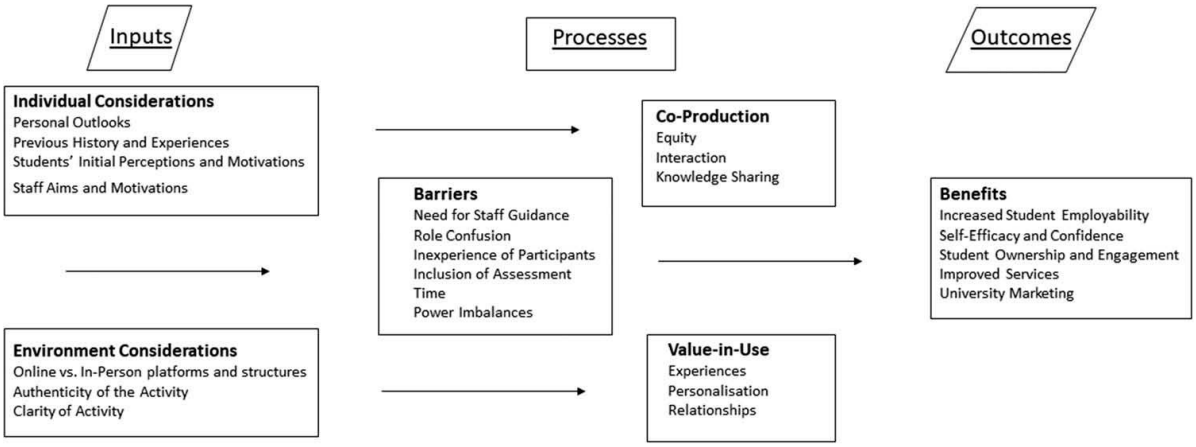
To understand how students and higher-education institutions jointly generate value through the interaction of their resources, Dollinger et al. (2018) propose a value-co-creation model for higher education (Figure 1). It distinguishes three interrelated phases:

- Inputs: individual factors (motivations, attitudes) and environmental factors (activity design, institutional support) that set the conditions for cooperation;
- Processes: centered on co-production and value-in-use, but also encompassing barriers such as power asymmetry, role ambiguity, and time constraints, along with support mechanisms such as mutual trust, clear objectives, and a balanced distribution of responsibilities, all essential for sustaining the student–teacher partnership;
- Outcomes: gains for the actors, including improved academic performance and student engagement; reflection and pedagogical development for instructors; and, for the institution, service improvement, innovation, and enhanced reputation.

Empirical evidence supports the model's validity. Dollinger and Lodge (2019) observed increased engagement and satisfaction after integrating co-production into formative assessments. Araújo et al. (2020) and Leem (2021) reported improvements in perceived course quality and student retention when co-production strategies were implemented in hybrid environments. Araújo et al. (2021) and Beier, Schmidt and Froehlich (2022) found that integrating student resources strengthens students' position as partners and can create competitive advantage. In Brazilian contexts, Oliveira et al. (2024) identified the development of instrumental, interpersonal, and systemic competences associated with value-in-use. Research has also examined how these dimensions manifest in co-created curricula (Lubicz-Nawrocka, 2017), digital learning platforms (Leem, 2021), and indicators of student participation (Maxwell-Stuart et al., 2018).

Going beyond Dollinger and Lodge's (2019) model, recent studies incorporate multiple stakeholders within educational ecosystems (Petrescu et al., 2024) and highlight the institutional capabilities needed to sustain such practices (Wilden et al., 2019; Beier et al., 2022). This broadens the lens and repositions value co-creation not merely as a didactic or pedagogical process but as a systemic institutional strategy with implications for the institution's strategic positioning within the ecosystem (Oliveira et al., 2024).

Figure 1
Student–Staff Co-creation Model



Note: Dollinger e Lodge (2019, p.4).

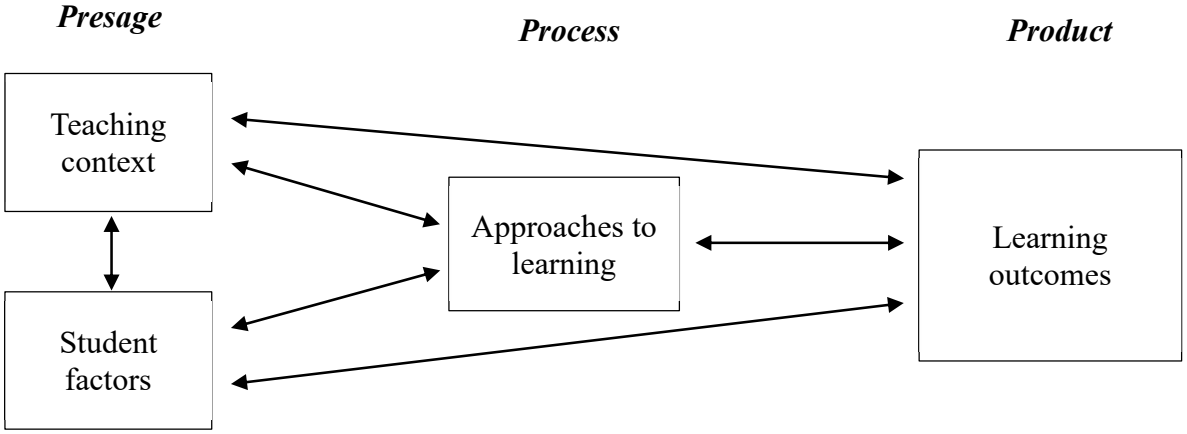
Presage–Process–Product (3P) Model for Higher Education

The 3P Model has been validated across a wide range of disciplines and educational contexts, as well as in several countries (Australia, the United States of America, Hong Kong, Nepal, Nigeria, the Philippines, the United Kingdom, and Pakistan) (Richardson, 2005; Ullah et al., 2011; De la Fuente et al., 2022; Gresele et al., 2022).

In the United Kingdom, a government higher-education enhancement programme adopted the model to explore ways of increasing student engagement and improving learning quality. The initiative produced resources for monitoring teaching–learning environments, conceptual frameworks for describing teaching practices, instruments for evaluating student involvement, and case studies on the development of instructional processes (Entwistle et al., 2002).

The model (Figure 2) describes learning as the interaction of three elements. *Presage* refers to prior factors that influence the rest of the model. Within presage, personal factors include academic experiences, conceptions of learning, and motivations. Research shows that higher-quality learning processes are associated with "good teaching," "freedom in learning," and intrinsic motivation, whereas heavy workloads, extrinsic motivation, fear of failure, and closed-ended assessments are linked to lower quality. Crucially, it is students' perceptions of teaching and assessment procedures that exert influence (Ramsden, 1987, 1997; Entwistle & Ramsden, 1983; Entwistle, 1998; Entwistle & Smith, 2002).

Figure 2
Presage–Process–Product Model



Note. Adapted from Biggs (1999) and Biggs and Tang (2007).

The teaching–learning environment is the setting defined by lecturers and the institution, e.g., curriculum design, objectives, teaching methods, assessments, and institutional support, that shapes students' perceptions and choices. Lecturers' conceptions, rooted in their own experiences, guide planning, teaching, and assessment, yet it is students' perceptions of these practices that influence their study approaches and, consequently, learning quality (Ramsden, 1997; Entwistle, 1998; De la Fuente et al., 2022).

In the *process* phase, learning results from the activities the student undertakes (Biggs, 1999). Cognitive strategies, study habits, and collaboration are modulated by self-perceptions and interpretations of context within a meta-learning cycle (Biggs, 1999). Study approaches are distinguished as deep (seeking understanding), surface (mechanical reproduction), and strategic (performance-oriented) (Marton & Säljö, 1976, 1997; Entwistle & Smith, 2002). The choice depends on intentions, motivation, and perceptions of academic demands (Marton, 1976; Ramsden, 1979; Entwistle & Smith, 2002; Ullah et al., 2011; Ullah et al., 2014).

Shifts in approach across tasks show the influence of context (Entwistle & Smith, 2002): a positive evaluation of the course encourages a deep approach, whereas negative perceptions foster surface approach (Ramsden, 1991; Wilson et al., 1997; Kanashiro et al., 2020). Additional factors, such as overall motivation (Entwistle et al., 1974; Entwistle, 1987; De la Fuente et al., 2014) and academic preferences are likewise related to study approaches (Entwistle et al., 2000).

Product denotes the tangible outcomes of learning and constitutes the goal of the process. The outcomes can be knowledge gained and the skills developed. It can be evaluated in multiple ways (De la Fuente et al., 2022; Biggs & Tang, 2007). Outcomes may be quantitative, for example the volume of memorized information, factual data, and concrete competences acquired; qualitative, such as the structure and complexity of thinking, depth of understanding, ability to relate and transfer knowledge to new contexts, and conceptual change; or affective, including the student's satisfaction with the learning experience and their involvement and commitment to the process (Biggs & Tang, 2007; Romo, 2017).

Over time, the theoretical perspective of the 3P Model has evolved to encompass a complex web of influences linking motivation, study methods, and performance with teaching actors, course design, academic environment, assessment methods, and learning approaches (Coffield et al., 2004). Recent studies explore how certain factors, such as changes in the

teaching–learning environment (e.g., co-creation), motivation, and preferences; affect students' study approaches and their perceptions of teaching quality (Entwistle & McCune, 2004). The model thus remains one of the most prominent learning frameworks in higher education (Guzman, 2023).

Studies applying the model demonstrate its usefulness for capturing complex interactions and, because it is integrative, for encompassing multiple factors that contribute to learning (De la Fuente et al., 2022; Guzman, 2023). Thus, the 3P Model can furnish elements for analyzing factors that may affect an effective co-creation process (Bovill & Woolmer, 2019); it offers a lens for examining how students engage in co-creation, while other work focuses on the collaborative dynamics of the process and value-in-use (Dollinger & Lodge, 2018), thereby helping to understand participation in an activity. In short, it provides a theoretical basis for combining the learning process with value-co-creation dynamics, permitting simultaneous analysis of how students learn and how they co-create value in the higher-education environment.

Value Co-creation and the 3P Model

In general, the learning model helps explain how initial factors, changes, and learning methods influence students' approaches and educational outcomes (Biggs & Tang, 2007), whereas the value-co-creation model in higher education focuses on the process through which actors actively collaborate to generate mutual value in the learning experience (Dollinger & Lodge, 2019). Consequently, each model has its own distinctive features (Figure 3).

Figure 3

Comparative Overview of the Two Frameworks

Characteristic	3P Model	Value Co-creation in Higher Education
Focus	Student learning	Value-co-creation process
Theoretical bases	Cognitive psychology, educational psychology, phenomenography	Management, Marketing, Service-Dominant Logic (SDL)
Key-concepts	Deep/surface approach, meta-learning	Co-creation, co-production, value-in-use
Components	Presage, process, product	Inputs; processes (co-production and value-in-use); outcomes
Emphasis	Primarily student (context includes instructor/institution)	Student, staff, institution (explicit perspectives and outcomes for all)
Analyses	Contextual and student factors, learning approaches, activities, meta-learning	Co-production dimensions (equity, interaction, knowledge sharing) and value-in-use (experience, personalization, relationship)
Outcomes	Learning outcomes (quantitative, qualitative, affective)	Mutual benefits (employability, effectiveness, sense of belonging, institutional image, etc.)
Application	Understand/analyze student learning	Design/analyze co-creation initiatives

However, the two models converge by organizing learning into a systemic three-phase structure (inputs, processes, and outcomes); they recognize that the educational environment and the conditions provided by the curriculum, teaching methods, and institutional support influence both processes and outcomes; they acknowledge the relevance of the characteristics students bring with them, such as motivation and prior knowledge; and they agree that the activities carried out while performing the task are the key element in the results achieved (Bigg & Tang, 2007; Entwistle & Smith, 2002; Entwistle et al. , 2002; Dollinger et al., 2018; Dollinger & Lodge, 2019).

PRESAGE/INPUTS. In higher-education value co-creation, inputs encompass students' personal resources, such as prior knowledge, cognitive skills, and critical thinking; and features of the teaching environment, including active-learning methodologies, technological infrastructure, and dynamic capabilities (Dollinger et al., 2018; Dollinger & Lodge, 2019). In the 3P Model, presage refers to the antecedent factors that shape how a student approaches learning; these subdivide into personal factors (motivation, self-efficacy, prior knowledge, study preferences) and the teaching context (curriculum, methods, classroom climate, perceived workload, assessment structure) (Entwistle et al., 2002; Ullah et al., 2011; Raza et al., 2014).

Although both models describe antecedent conditions and operant resources for the learning process (Entwistle et al., 2002; Dollinger & Lodge, 2019), integrating these factors makes it possible to delineate the pre-conditions that enable student participation and the effective co-production of value in higher education. For example, students' perceptions of assessment characteristics and criteria influence their study strategies and signal what is truly valued in the course, thereby clarifying barriers and incentives to co-production; through alignment among objectives, activities, and assessment, coherence is ensured between the intended outcomes and opportunities for student contribution (Ullah et al., 2011; Raza et al., 2014).

Moreover, diagnosing learning preferences (deep, surface, or strategic) helps identify the support required and design interactions that enhance participation in co-creation (Entwistle et al., 2002; Raza et al., 2014). Contextual variables such as perceived workload and other curricular requirements likewise directly shape the time, energy, and attention students can devote to co-creation, modulating overload and the pace of activities (Ramsden & Entwistle, 1981; Ramsden, 1991; Raza et al., 2014).

In addition, teaching quality, classroom climate, and social support form the psychological and relational foundation for interaction, knowledge sharing, and trust building (Richardson, 2013, p. 13; Raza et al., 2014). Chaotic or distrustful environments tend to inhibit these processes, whereas climate and support metrics provide indicators for monitoring and intervention (Mann, 2001, p. 17; Raza et al., 2014).

Finally, clear predetermined learning outcomes, articulated within constructive alignment, help define the purpose toward which co-creation inputs will be directed. Thus, translating presage factors into the design of inputs not only prepares the ground for participation but also offers a framework for understanding how to create the ideal preconditions for meaningful value co-creation (Entwistle et al., 2002; Biggs & Tang, 2007; Dollinger & Lodge, 2019).

PROCESS. The value-co-creation process in higher education is defined by the collaborative interaction among actors, in which value is generated mutually through dialogue, access to resources, and risk sharing, encompassing elements such as co-production and value-in-use (Dollinger et al., 2018; Dollinger & Lodge, 2019). In the 3P Model, process refers to the cognitive and metacognitive strategies students adopt during learning, mediated by the educational environment (Marton & Säljö, 1976; Richardson, 2009; Raza et al., 2014).

Both models focus on dynamic interaction, emphasizing student engagement and the educational environment as influential factors. However, integrating them provides pedagogical tools and diagnostic lenses that enhance process quality. First, the 3P Model makes it possible to diagnose learning approaches within the task environment (Biggs & Tang, 2007); such mapping guides the distribution of targeted support, preventing participation from being limited to formal interactions with low cognitive engagement (Richardson, 2000; Raza et al., 2014).

Moreover, the principle of constructive alignment among objectives, teaching-learning activities, and assessment (Biggs, 1999; Biggs & Tang, 2007) offers a consistent criterion for designing co-production experiences that match the intended value-in-use, ensuring that each collaborative activity promotes deep application, theorization, and reflection rather than a surface approach (Entwistle et al., 2002).

The repertoire of teaching–learning activities typified in the 3P model, e.g., problem-based learning, case studies, guided discussions, peer assessment; operationalizes the interaction sought in co-creation, converting the idea of partnership into observable classroom routines (Perkins, 1998, cited in Entwistle et al., 2002). In parallel, metacognitive strategies such as self-reflection and feedback expand students' autonomy to monitor and adjust their contributions, while psychological variables act as moderators that sustain engagement in demanding collaborative contexts (Raza, Ifra & Yasmeen, 2014; Sansone et al., 2023; Paethrangsi et al., 2024).

Integrating these perspectives transforms the classroom into a collaborative learning ecosystem in which each student interaction is anchored in aligned, cognitively challenging, and sustained pedagogical activities, fostering the generation of lasting perceived value for both students and the institution (Dollinger & Lodge, 2019).

PRODUCT/OUTCOMES. In the 3P Model, product represents the outcomes of the learning experience, what is achieved after the interaction among student characteristics, contextual factors, and the strategies and activities carried out during learning (Biggs & Tang, 2007). In the co-creation model, outcomes are the benefits and impacts generated for the various actors involved, arising from their active collaboration (Dollinger et al., 2018; Dollinger & Lodge, 2019).

Both models recognize that results go beyond traditional academic performance, emphasizing student engagement in achieving outcomes that are shaped by initial characteristics as well as by the strategies adopted during the process (Biggs & Tang, 2007; Dollinger & Lodge, 2019).

Integrating the 3P Model with the value-co-creation framework can broaden assessment beyond the metrics currently used. Incorporating cognitive-depth criteria, such as those operationalized by the SOLO (Structure of Observed Learning Outcomes) Taxonomy, that qualifies "better performance" based on levels of understanding (relational or extended abstract), preventing value-in-use from being confined to grades or popularity (Biggs & Collins, 1982; Boulton-Lewis, 1998). In addition, the 3P Model's performance rubrics and ordered-outcome items offer objective tools for measuring competence and engagement, ensuring that the co-created experience generates higher-order knowledge (Entwistle et al., 2000; Raza et al., 2014).

It is also possible to examine psychosocial and well-being dimensions, such as flourishing and student health, which complement the relational and institutional outcomes of co-creation, thereby configuring a framework for the student's holistic development. These variables make it possible to determine whether collaboration generates sustainable benefits rather than merely short-term positive perceptions (Entwistle et al., 2002).

In addition, the 3P Model makes explicit feedback cycles in which Products influence future presage factors. Applying this logic to co-creation shows how gains in self-efficacy or confidence can reinforce initial resources in subsequent semesters, strengthening co-production. It also supports more precise pedagogical interventions by identifying learning or well-being gaps, enabling adjustments to activities and assessments to maximize impact (Biggs, 1999; Entwistle et al., 2002; Khurana & Manuja, 2023).

Finally, the integration distinguishes learning quality from course popularity, reminding us that high satisfaction does not necessarily imply substantive cognitive transformation.

Combining the indicators can provide a holistic view, allowing the evaluation of educational effectiveness and value-in-use, and underpinning teaching practices that align active participation with deep learning (Biggs, 1999; Bovill et al., 2016; Dollinger & Lodge, 2019).

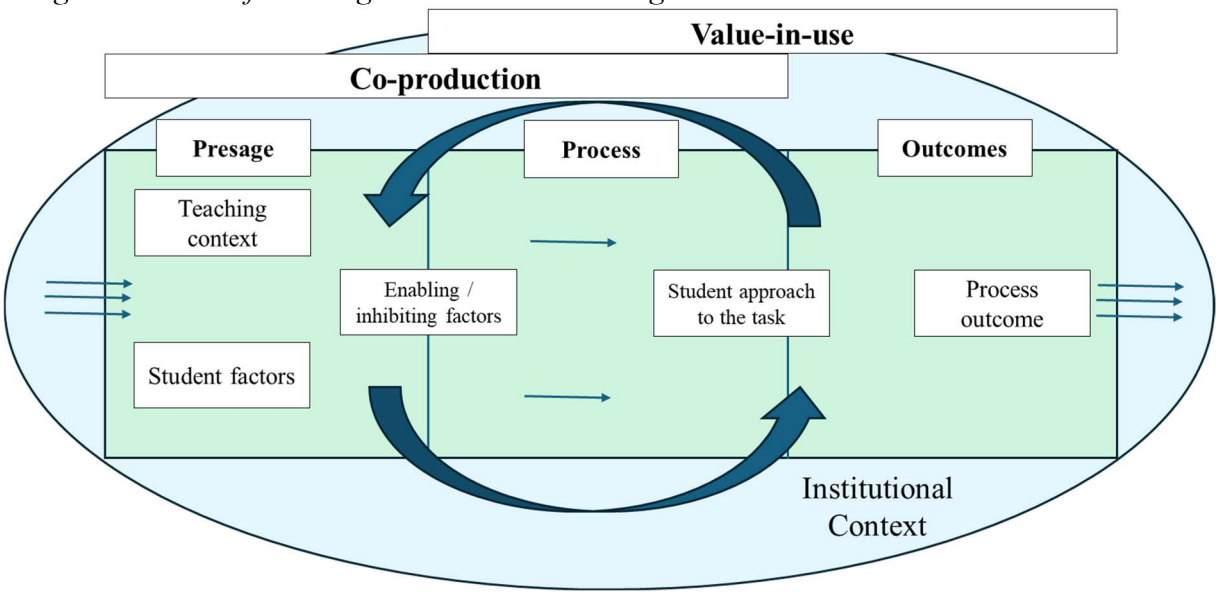
Moreover, to make the model explicit, we incorporate *Institutional Context* in higher education, understood as the set of rules, norms, policies, practices, mission, and image that govern interactions among actors and influence how resources are integrated and value is co-created within this social and educational environment (Petrescu et al., 2024; Ávila et al., 2023; Setyanto et al., 2023). Examples of institutional context include culture, which can foster or constrain collaborative practices; curricular and assessment policies, which determine the autonomy granted to faculty and students; pedagogical and technological resources, which enable participatory environments; and models of academic governance.

On the one hand, the institutional context forms the foundation for the possibilities (or barriers) of value co-creation, playing a transversal and critical role in institutionalizing participatory, innovative, and student focused educational practices. On the other hand, it is itself affected by the outcomes of co-creation, gradually reshaping institutional norms, values, and incentives (Giddens, 1989; Weick, 1995; Jarzabkowski, 2004).

In Figure 4, we present an integration of the aspects of the 3P Model and the Value Co-creation Model.

Figure 4

Integrated model of learning and co-creation in higher education.



The model proposes that learning in higher education results from a dynamic cycle in which the cognitive learning process (Biggs & Tang, 2007) and the value-co-creation process (Dollinger & Lodge, 2019) are interrelated. In the initial phase, contextual conditions combine with student characteristics. During the process, co-production is realised through interactions among actors and resources, and two mechanisms come into play: (1) enabling or inhibiting factors, such as institutional support and classroom climate, that regulate students' predisposition to engage; and (2) the student's approach to the task. Co-production influences learning by modulating the first mechanism and thereby shaping the quality of cognitive engagement. In the outcomes phase, the model highlights gains that go beyond traditional metrics and can be framed as value-in-use, because they acquire meaning as the activity is performed.

In short, the 3P Model provides a conceptual framework for the learning system within which value co-creation can occur; the value-co-creation model enriches understanding of the interactive, contextual, and relational elements of the learning model, especially in activities involving explicit partnership; and value co-creation can serve as a specific construct of the learning process, becoming particularly relevant when the learning context is designed to include co-creation activities (Biggs, 1999; Entwistle & Smith, 2002; Dollinger & Lodge, 2019).

Overall, we believe that integrating the models helps foster co-production from the course-planning stage, sustain factors that encourage deep study approaches, and create mechanisms that translate outcomes into practical benefits perceived by students, thereby positively feeding back into the learning cycle. At the very least, co-production can shape students' learning process, yielding outcomes with higher value-in-use, since active participation can refine their approach to the task and lead to more meaningful, applicable learning (Neary & Saunders, 2016).

Propositions for Value Co-creation in Higher Education

We developed a framework to systematically explore the intersections between the two models (Figure 5). Each cell of the matrix represents a specific intersection point, helping focus inquiry on the relationship, mutual influence, or interaction among the components.

Figure 5

Integrative matrix of the components of the 3P and Value Co-creation models

		Value Co-creation Model in Higher Education		
		Inputs	Process	Outcome
Learning Process Model in Higher Education	Presage	Quadrant 1 How do students' personal and/or contextual factors relate to the co-creation inputs?	Quadrant 2 How do students' personal and/or contextual factors relate to the co-production process and/or value-in-use?	Quadrant 3 How do students' personal and/or contextual factors relate to the final co-creation outcomes or value-in-use?
	Process	Quadrant 4 ow do learning approaches/activities influence or relate to the co-creation inputs?	Quadrant 5 How do learning approaches/activities influence or relate to co-production and value-in-use?	Quadrant 6 How do learning approaches/activities relate to the value-co-creation outcomes?
	Product	Quadrant 7 How do learning outcomes relate to or influence the value-co-creation inputs?	Quadrant 8 How do learning outcomes relate to or influence the value-co-creation process?	Quadrant 9 How do learning outcomes relate to (or diverge fro) value-co-creation outcomes?

Q1. It examines how initial learning factors, the teaching context, and student characteristics interact with co-creation inputs. The 3P model emphasises the influence of context on the teaching–learning system (Biggs, 1996; Biggs & Tang, 2007), whereas the co-creation framework highlights the importance of the resources mobilised at the start of the process (Dollinger & Lodge, 2019).

A misalignment can arise when the institutional rhetoric of student–teacher partnership does not translate into clear and authentic inputs. For instance, an institution may publicise commitments to co-production yet offer only vague instructions or limited feedback channels. This can undermine engagement even among students with high self-efficacy or motivation (Entwistle et al., 2002). Studies on implementation fidelity show that execution quality conditions the effectiveness of co-partnership initiatives (Bovill, 2020).

Previous learning approaches also shape how inputs are interpreted. A student inclined toward a surface approach may view the absence of a rigid structure as a lack of clarity; by contrast, one who adopts a deep approach may see it as a genuine opportunity for exploration (Gray et al., 2013). Therefore, input design should take student factors into account and ensure coherence between institutional intentions and the concrete characteristics of the activity. Alignment tools could help ensure that planning is reflected in practice.

Q2. It focuses on how individual characteristics and contextual conditions affect (or are linked to) actors' participation in co-production processes and the generation of value-in-use. Even when co-production is explicitly planned, ingrained hierarchical assumptions and power imbalances can block the sharing of responsibility, trust, and reciprocity required for genuine partnership (Dollinger et al., 2018). Such barriers rarely appear in institutional documents but surface in everyday interactions; for example, when lecturers control the decision-making agenda or set the terms of assessment.

Student factors such as motivation or prior knowledge can also interact with the co-creation process, shaping the value-in-use that emerges (Entwistle, McCune & Hounsell, 2002; Dollinger, Lodge & Coates, 2018). A highly motivated student may have a markedly positive experience with a co-production task, whereas a less motivated peer may prefer a simpler process to achieve the same positive outcome. This suggests that a one-size-fits-all co-creation process may not serve everyone, highlighting the need for differentiated co-creation opportunities based on initial factors.

Q3. It addresses the initial conditions and the benefits derived from co-creation activities, examining whether this influence the outcomes of co-creation. Pre-existing inequalities, captured in the initial factors, may affect the results of co-creation (Biggs & Tang, 2007). For example, given that the full development of the co-creation process often relies on competences such as communication and trust (Godbold, Hung & Matthews, 2021), if co-creation activities are not aligned with these competences, results can diverge. This calls for a critical examination of equity not only within the co-production process but also in the relationship between presage and outcomes.

Additionally, the outcomes prioritized by the higher-education institution may not coincide with those generated by a co-creation initiative (Cavallone et al., 2019). For instance, while an institutional project may aim to raise perceived teaching quality, the initiative might instead foster a stronger sense of belonging among students, leading it to be deemed inefficient even though it produced benefits. This underscores the need for a clear alignment between institutional objectives and the expected or measured outcomes.

Q4. It explores students' learning and how they relate to, interpret, and interact with the initial conditions of co-creation. Students who adopt a deep learning approach (Entwistle et

al., 2002) are more likely to actively seek, or even co-create, meaning for the co-creation activity, such as clarifying its purpose and establishing authenticity, rather than merely accepting it passively. These students are proactive and meaning-oriented; they may challenge unclear aspects or propose ways to make the activity more authentic, effectively shaping the inputs through their task orientation.

For example, in a course that relies mainly on lectures, introducing a co-creation task may be perceived as inauthentic or unclear by students accustomed to surface learning, regardless of how well the co-creation task itself is described. Thus, the design of learning activities within a course can interfere with any co-creation initiative, potentially overshadowing the declared co-creation inputs, suggesting that cannot be designed without taking the broader pedagogical approach into account.

Q5. It examines the interaction between how students learn and how co-creation unfolds. Adopting a deep learning approach facilitates meaningful knowledge sharing during co-creation activities (Dollinger & Lodge, 2019). Within the 3P framework, the learning process can be a stronger predictor of co-creation quality than the specific design of the co-creation task itself. In this logic, a student with a deep approach may find value-in-use and engage equitably even in a poorly structured co-creation task, whereas a student with a surface approach may struggle even with a well-designed task. Thus, the student's approach to the task acts as a mediating variable between task design and the co-creation experience, constituting a quality factor that emerges from the process.

Moreover, following the systematic logic of the 3P model, positive and empowering co-production experiences can increase motivation and engagement (Turanoglu-Bekar et al., 2023), which in turn are linked to deeper learning approaches; in other words, successful co-creation can positively influence future learning approaches. Hence, we can posit a reciprocal relationship: engagement in high-quality co-creation processes may foster a shift toward deeper learning approaches.

Q6. Relates the 3P Model's process to the outcomes of value co-creation. Students who adopt deep learning approaches report greater gains from co-creation than those who use surface approaches (Raza, Ifra & Yasmeen, 2014). Deep learning fosters higher-order thinking (Gray et al., 2013), while co-creation offers authentic, and often complex, contexts in which to apply knowledge (Dollinger & Lodge, 2019). The synergy between a deep approach and active participation in co-creation can be pivotal for developing higher-order outcomes such as critical thinking, problem-solving, and adaptability. Combining how students learn with the context in which they apply that learning is likely to provide a stronger pathway for developing complex competences than either element alone.

However, as noted, focusing exclusively on co-creation outcomes without considering the underlying learning process can misattribute success. Improved services may result from a co-creation project, but if students relied mainly on surface approaches, their own learning and development could be minimal. Thus, evaluating co-creation requires analyzing both the co-creation outcomes and the nature of the learning process.

Q7. It explores how learning outcomes influence the inputs to co-creation activities. Negative past experiences can reduce motivation for future activities, suggesting that early failures in learning may inhibit students' full engagement in the co-creation process (Biggs & Tang, 2007). For instance, students' satisfaction with previous learning experiences affects their motivation to participate in subsequent co-creation opportunities. A negative feedback cycle may arise if learning outcomes lower motivation or create negative perceptions of future co-creation, marginalizing students who previously struggled.

Moreover, the type of learning outcome achieved, such as deep understanding versus memorization, can differentially influence the inputs students bring to co-creation (Raza, Ifra & Yasmeen, 2014; Biggs & Tang, 2007). For example, students who achieve deep understanding may be more inclined toward genuine knowledge co-creation, whereas those focused on grades may prioritize co-creation activities perceived as easy ways to earn marks. This links the nature of past learning success to students' future intentions in the co-creation process.

Q8. It investigates the relationship between learning outcomes and how actors engage in co-creation activities. The learning product acts as a resource that students bring into co-creation processes (Biggs & Tang, 2007). For example, previously acquired confidence, competence, and understanding directly influence the quality of interaction, knowledge sharing, and experience exchange. This highlights the developmental nature of co-creation capacity—successful learning builds the foundation for more effective co-creation.

However, a disconnect between learning outcomes and the competences required for effective co-creation can lead to frustration and a sense of failure within the co-creation activity. If assessment rewards surface learning, students may lack the deeper competences needed for successful co-production or meaningful value-in-use. This underscores the importance of ensuring that learning outcomes genuinely reflect the skills and abilities required.

Q9. This final cell contrasts the products of traditional learning with the outcomes of co-creation. One might assume that traditional learning results correlate positively with co-creation outcomes, or that co-creation initiatives designed to improve student engagement also lead to better learning results. However, there may be a significant divergence between what counts as effectiveness in learning processes and in co-creation (Oliveira et al., 2024). Such divergence can create tension when evaluating co-creation initiatives. As Lu and Tang (2022) note, high grades do not necessarily imply high acceptance of value co-creation. Relying solely on traditional metrics may undervalue or misjudge the impact of co-creation, which produces different kinds of outcomes.

Nonetheless, certain co-creation outcomes can act as factors that lead to better long-term learning results, even if immediate course grades show no direct link, given that these co-creation factors are known to influence student motivation and persistence (Suliman et al., 2025). They may therefore contribute indirectly and over the long run to learning effectiveness, meaning the value of co-creation outcomes also lies in their enduring and indirect impact on academic performance.

The analyzed matrix makes it easier to pinpoint explicit relationships between the two models, helping to craft both research and practice propositions. Nevertheless, many additional links may cut across the rows and columns, and further factors may moderate or mediate the processes involved.

For example, in mediation, where the effect of a predictor on an outcome is channelled through a third variable (Hair et al., 2009), the link between student motivation and learning results may be mediated by the quality of the student's engagement in co-creation processes. Highly motivated students may achieve better outcomes because they engage more equitably and interactively, share more knowledge, and enjoy more positive, personalized experiences, that is, greater value-in-use.

Likewise, the relationship between the perceived authenticity of a co-creation task (Dollinger & Lodge, 2019) and the development of student self-regulation, the active and appropriate management of one's own behavior (De la Fuente et al., 2022), may be mediated by adopting a deep learning approach, given the need to cope with the task's complexity.

We can also consider moderation effects, e.g., situations in which the strength or direction of the relationship between two variables is altered by a third (Hair et al., 2009). For instance, a student's learning approach may moderate the link between the clarity of co-creation objectives and the student's satisfaction with the co-creation outcome. Clear objectives might strongly predict satisfaction for students with a surface approach, whereas the relationship could be weaker for those with a deep approach, who may find value even in ambiguity or prefer to co-define their objectives.

As another example, students' prior knowledge may be a strong predictor of grades in a low-support co-creation environment, but in a high-support setting the impact of prior knowledge can be reduced because all students are better equipped to succeed. Thus, the level of support provided during the co-creation process may moderate the relationship between students' prior knowledge and both their performance and the value-in-use they derive from the co-creation activity.

Overall, a systematic analysis of the intersections between the 3P Model and the Value Co-creation Model in higher education reveals a web of interdependencies. The propositions show that student learning and co-creation initiatives are not isolated phenomena; they are interconnected, and ignoring these links can lead to misalignment, inefficacy, and even overlooked inequalities.

Designing, implementing, and evaluating value-co-creation practices therefore require a holistic, systemic approach (Dollinger et al., 2018; Dollinger & Lodge, 2019). Such an approach must incorporate the dynamics of student learning and the broader institutional context (Biggs & Tang, 2007) to ensure coherence and to promote equitable, meaningful experiences for all participants.

Theoretical and Practical Considerations

Regarding theoretical contributions, the findings may indicate the need to explicitly integrate co-creation dynamics into the 3P Model (Biggs & Tang, 2007; Dollinger & Lodge, 2019). The collaborative and relational nature of co-creation can broaden the traditional focus on the learning process. On the one hand, co-creation could be framed as a learning process or as a factor within the learning environment. On the other, taking the 3P Model's Presage and Process factors into account can enrich the value-co-creation process, helping explain variability in co-creation success.

This integration offers a conceptual framework for understanding engagement and the development of the learning process in higher education, where learning emerges from the partnerships formed through co-creation and acknowledges that learning takes place within complex relational ecosystems.

Regarding practical implications, the proposal offers several contributions to pedagogical management, faculty practice, and institutional action in higher education. It can supply an operational framework that links planning, implementation, and evaluation of educational practices to a more participatory process, encompassing co-created curricula, assessment systems, faculty-development programs, and institutional strategies aligned with a service logic; thus, serving as a practical guide for universities aiming to increase engagement, social relevance, and quality.

For example, it can provide a roadmap for designing curricula that include formal co-creation spaces from the outset, such as "activity co-design" workshops or mixed committees for syllabus review, narrowing the gap between pedagogical intent and student experience and better aligning expectations with available resources.

In addition, involving students in co-production activities can turn tasks into meaningful experiences, encouraging the use of more sophisticated cognitive strategies.

Because co-creation often demands tools that promote the shift from surface to deep learning strategies, it has the potential to enhance the overall learning process.

With respect to evaluation, because results must be measured from a broad perspective, higher-education institutions can adopt integrated dashboards that combine learning-performance indicators with value-in-use metrics. By treating student–faculty feedback as essential, institutions legitimize the systematic collection of qualitative data that supports pedagogical innovation, enables real-time adjustments, and strengthens teachers' reflection on their practice, fueling continuous-improvement cycles.

The ecosystem perspective, linked to the teaching environment, suggests that internal policies, e.g., governance structures, technologies, incentives; should sustain co-creation beyond the classroom. Initiatives such as incubators, learning studios, and community partnerships can convert co-production into value, fostering social impact and greater institutional visibility.

Conclusions and Future Directions

By developing a conceptual integration of the Presage–Process–Product (3P) Model with elements of the Value Co-creation Model in higher education, this contribution offers a perspective for analyzing the interactions between students' cognitive mechanisms and collaborative value-creation experiences, thereby enhancing the academic journey and generating value for everyone involved.

In light of Hollebeek et al. (2024) and with the aim of clarifying the rigour of the theorising process, construction of the integrative model was guided by the seven criteria of the 7C Framework. First, at the intraproposition level, the quality of each individual argument was addressed. *Clarity* was achieved by condensing the complex relationships among the constructs into a single diagram (Figure 4), which makes the causal reasoning easier to grasp. *Consistency* was ensured through adoption of the constructive-alignment principle as the logical backbone, so that all propositions stem from the same chain of reasoning. *Conciseness* resulted from the triadic architecture of the model, which synthesises the two theoretical bodies. Finally, *contribution* emerges from integrating traditions that seldom interact, offering a lens on how co-creation can enhance learning.

Second, at the interproposition level, the criteria were applied to validate the robustness of the full set of propositions. To guarantee *conceptual distinctiveness*, the integrative matrix (Figure 5) was used to organize the propositions into mutually exclusive cells, preventing overlap among constructs. The *comprehensivenessis* expressed in the nine propositions that span the entire educational cycle, from initial conditions to outcomes, ensuring that no relevant theoretical eventuality falls outside the scope. Lastly, *coherence* is reinforced by the explicit feedback loops that show how outcomes feed back into initial factors, turning the framework into a logical, continuous system.

This framework is intended to guide the design of more synergistic and effective pedagogical and institutional practices. However, we acknowledge the conceptual nature of this proposal. Future research should therefore aim to operationalize the constructs and test the propositions using quantitative and qualitative methods, exploring their validity across different institutional, cultural, and disciplinary contexts.

Longitudinal studies would also help capture feedback cycles, while comparative research could examine differences among teaching modalities and the impact of new technologies. Exploring additional factors and extending the model to incorporate other relevant dimensions of the student experience likewise represent promising avenues.

In sum, this theoretical essay outlines paths that can inspire future investigations and foster more integrated, partnership-centred educational practices. Although offered at a

conceptual level, the model provides a foundation for studies aimed at understanding, refining, and exploring aspects of learning and value co-creation in higher education.

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Use of Generative AI in This Research

The following Generative Artificial Intelligence tools were employed in preparing this work:

- Language review: The Gemini model was used to proof-read and correct spelling and language in sections of the text.
- Reference-style review: Gemini was consulted to help verify and adjust bibliographic references to APA formatting standards.
- Translation and English revision: The Gemini and ChatGPT-o3 models were used to translate and revise text into English.

In accordance with the event's policy, the authors reviewed all AI-generated content and take full responsibility for the information, analyses, and conclusions published, which are the result of human intellectual work.