



HEI Enhancement

PROJECT REPORT^a

Anastássios Perdicoulis^b

Assistant Professor, ECT, UTAD (<http://www.tasso.utad.pt>)
Senior Researcher, CITTA, FEUP (<http://www.fe.up.pt/~tasso>)
Visiting Researcher, Oxford Institute for Sustainable Development, OBU, UK



^aApplied R&D Project, 2017 — Planning StudioSM (systemsplanning.org)

^bProject manager; founder and trustee of Systems PlanningSM



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Preamble

Summary

This is a Systems PlanningSM demonstration project related to the governance of a higher education institution (HEI) — identity withheld. The project identifies how the particular HEI can go from its ‘normal’ existence to becoming ‘exceptional’, and what it takes for this to happen.

Note

The project represents the views of a specific set of stakeholders, and is directly implementable — *caveat emptor*. Contact with other stakeholders is likely to produce different results. On an alternative track, the project may serve as the manifesto of an electoral campaign within the institution.

Credits

The project was executed between April and May 2017, within the scope of academic R&D. The information contained in this report is the responsibility of the author, identified on the cover page.

1. Setting

1.1 Object and intent

The higher education institution (HEI) of the case study functions ‘normally’, but stakeholders (e.g. students, faculty, staff) wish to see ‘improvements’ in aspects such as the conduct of research or the quality of teaching. This demonstration project showcases the practice of Systems PlanningSM in conceiving appropriate action for the HEI’s advancement into a better (or ‘exceptional’) state of existence than it currently is.

1.2 Methodology

All diagrams follow the Systems PlanningSM modelling language (SPMLTM) notation (Figure 1.1) and procedures are part of the Systems PlanningSM methodology, or SPMTM (Perdicoúlis, 2014a,b).

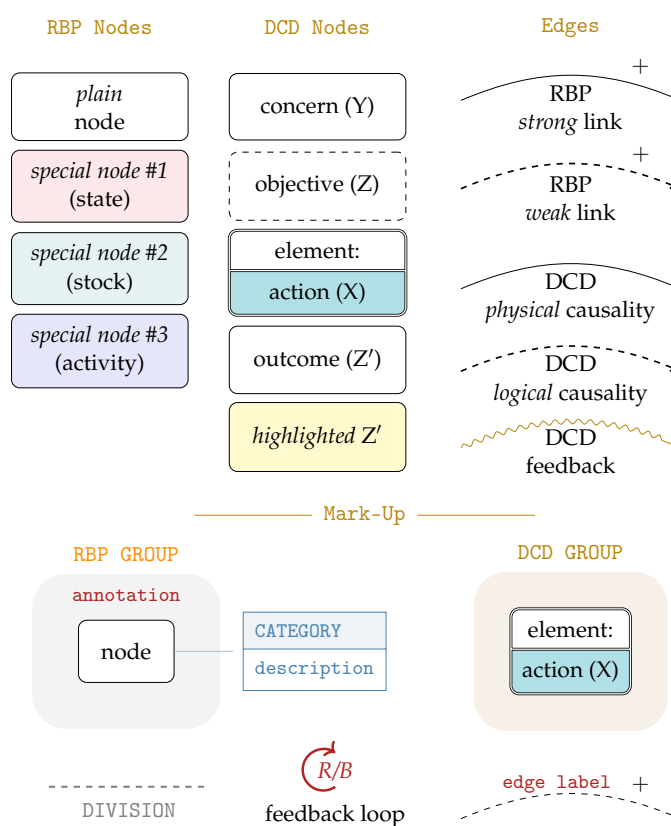


FIGURE 1.1 [KEY] SPMLTM notation used in the project

2. Analysis (RBP)

The analysis of the situation aims towards the understanding of the HEI’s structure and function, which is then committed to an annotated reverse blueprint (RBP) — Figure 2.1.

2.1 System

The RBP, prepared through ‘modelling–simulation’ iterations (Perdicoúlis, 2014b), represents stakeholder knowledge, assumptions, and opinions about the HEI. The system (RBP) is divided into two parts: the academic sector corresponding to its mission, and the ancillary sector corresponding to administrative support.

2.2 Nodes

The nodes of the RBP are of different types (Table 2.1) and significance for the dynamic system (Figure 2.1). In this ‘system enhancement’ project, all the RBP nodes are marked as ‘concerns’ (Y), and are subsequently explored in the descriptive causal diagrams (DCD) — § 3.

NODES/ CONCERNS	TYPE
teaching quality (Y_T), administrative efficiency (Y_E)	state
scientific research (Y_R), international visits (Y_V)	activity
culture (Y_C), competences (Y_P), knowledge (Y_K)	stock (abstract)
financial reserve (Y_F), students (Y_A)	stock (resource)

TABLE 2.1 Types of system nodes

2.3 Links

Most of the links of the RBP are of the usual ‘strong’ type (Figure 1.1). Nonetheless, some ‘weak’ links have been introduced because they involve the students (Figure 2.2). These ‘weak’ links actually reduce the driving power of the associated loops, which begin to gain significance only if the students are ‘attracted’ by good teaching or *actively guided* to ‘help out’ in research (§ 2.4).

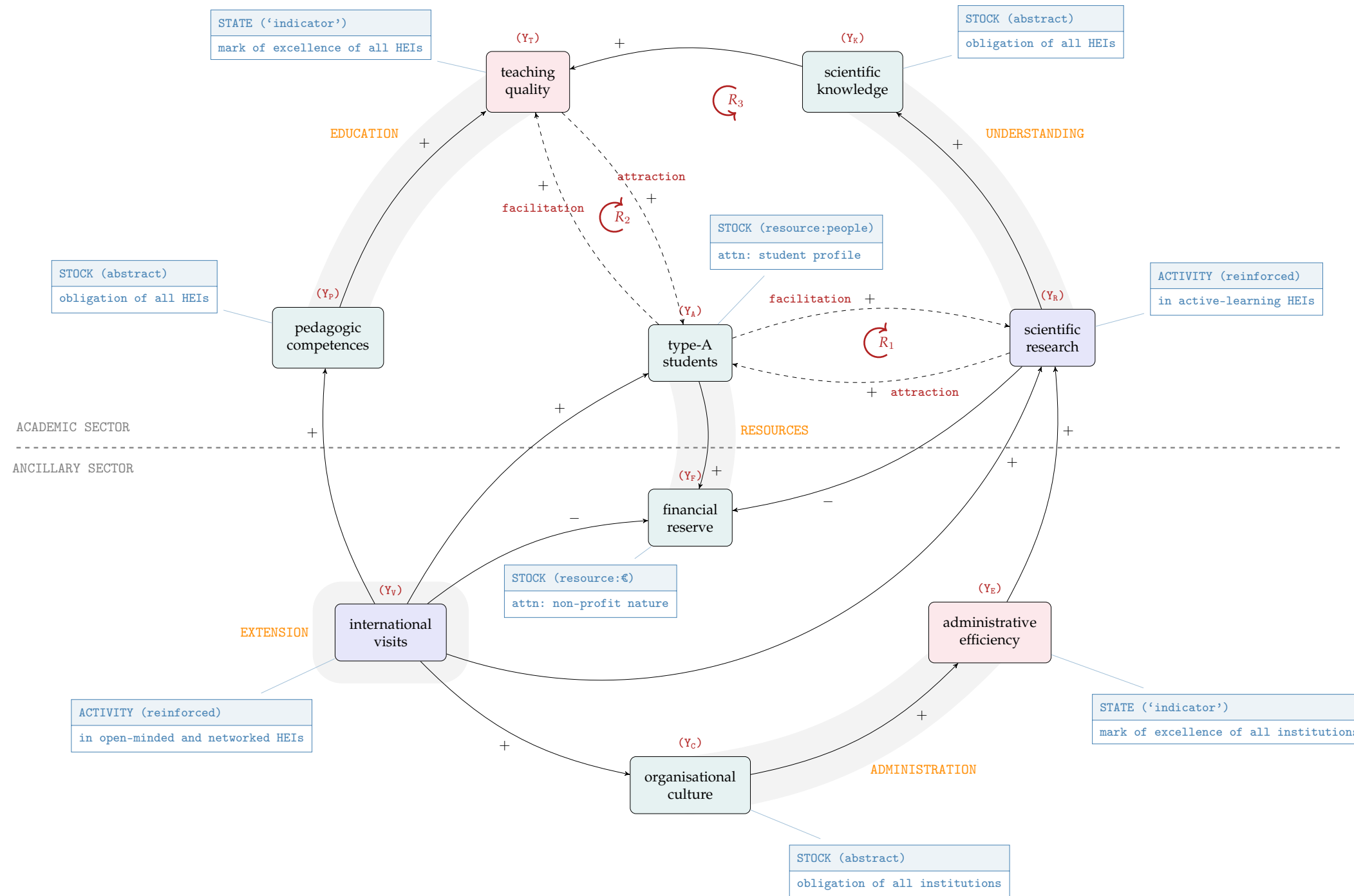


FIGURE 2.1 [RBP] The dynamic system with annotations for the elaboration of provisions

2.4 Feedback loops

The three feedback loops of the RBP are all in the academic sector (Figure 2.2) and contain weak links (§ 2.3), so they are considered as weak drivers of the system (Table 2.2).

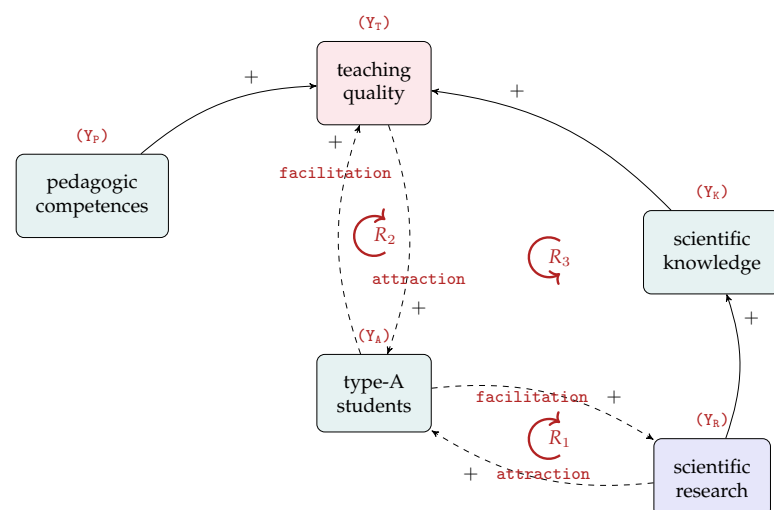


FIGURE 2.2 [RBP] The academic sector of the HEI system

LOOP	NAME	ELEMENTS
R ₁	'research'	research, students
R ₂	'teaching'	teaching, students
R ₃	'knowledge'	research, knowledge, teaching, students

TABLE 2.2 Feedback loops in the system (RBP)

The 'research' (R₁) and 'teaching' (R₂) loops are worth being boosted, for which *priming* (e.g. active guidance) is required from teaching and research (§ 2.3). Attracting good students to mediocre teaching and research environments — i.e. the opposite tactic — is not stable. The 'knowledge' loop (R₃) is a superset of the other two, and bound to become stronger after its subsets are strengthened.

3. Conception (DCD)

With the understanding gained by (and represented in) the reverse blueprint (RBP) of the system (Figure 2.1), the creative part of the project conceives the appropriate action, collectively referred to as 'provisions' — Table 3.1.

PROVISIONS	CONCERNS	DCD
Education	pedagogic competences (Y _P) teaching quality (Y _T)	Figure 3.1
Understanding	scientific research (Y _R) scientific knowledge (Y _K)	Figure 3.2
Administration	organisational culture (Y _C) admin efficiency (Y _E)	Figure 3.3
Resources	type-A students (Y _A) financial reserve (Y _F)	Figure 3.4
Extension	international visits (Y _V)	Figure 3.5

TABLE 3.1 Departmental provisions for the identified concerns

For not disrupting the institution's *modus operandi*, the project follows the original 'departmental' model of governance — quite common in HEIs — which allows for due focus and attention to the concerns. The exploration of the concerns is carried out thematically (Table 3.1) in descriptive causal diagrams (DCD), with encouragement of knowledge-sharing between themes.

During the preparation of the DCDs, assessment–mitigation iteration cycles help to improve the quality of the provisions — namely, regarding their *effectiveness* (Z–Z'), *thoroughness* of preparation (Y–Z), *intelligence* of conception (Z–X), *efficacy* of action (X–Z'), as well as their overall *fulfilment* of purpose (Z'–Y).

3.1 Education

The 'indicator' state of quality teaching (Y_T) is being enhanced by interesting classes (via teaching experience and technique) and quality content — Figure 3.1. Related action is grouped as (a) faculty development (teaching) and (b) publication policy (quality material made available for teaching purposes).

3.2 Understanding

Scientific knowledge is enhanced by abundant information of scientific quality and *understanding* of the subject matter — steering clear from proxies for the assessment of either (Perdicoúlis, 2013b, 2014e). The associated scientific research is enhanced by researcher competence and research conditions (Figure 3.2). Related action is grouped as (a) faculty development (research), (b) asset policy (equipment), (c) publication policy (acquisition, creation), and (d) knowledge consolidation (public debates in a variety of decorous media).

3.3 Administration

Organisational culture is enhanced by operational *understanding* and administrative experience, while administrative efficiency is enhanced by process simplicity and awareness. Simplicity and understanding are related through a 'learning loop' — Figure 3.3. Related action is grouped as (a) staff development (experience, training, design) and (b) operational readiness (process diagrams).

3.4 Resources

Recruitment aims towards international students of high standing, capable of securing the intended superior levels of teaching and research. Student fees, together with the regular funding campaigns, enhance the institution's financial reserve — Figure 3.4. Related action is grouped as (a) funding campaigns (campus, salaries, acquisitions), (b) course standardisation (English versions), and (c) student recruitment (global scale).

3.5 Extension

An increase in primarily outgoing international visits aims to open up the minds and enrich the experience of faculty, staff, and students. Appropriate selection of partners as well as the capacity to communicate across borders (e.g. in English) enhance the international visits, with a reinforcing effect between the two — Figure 3.5. Related action is grouped as (a) faculty, staff, and student development (international network) and (b) operational readiness (EN language upgrade).

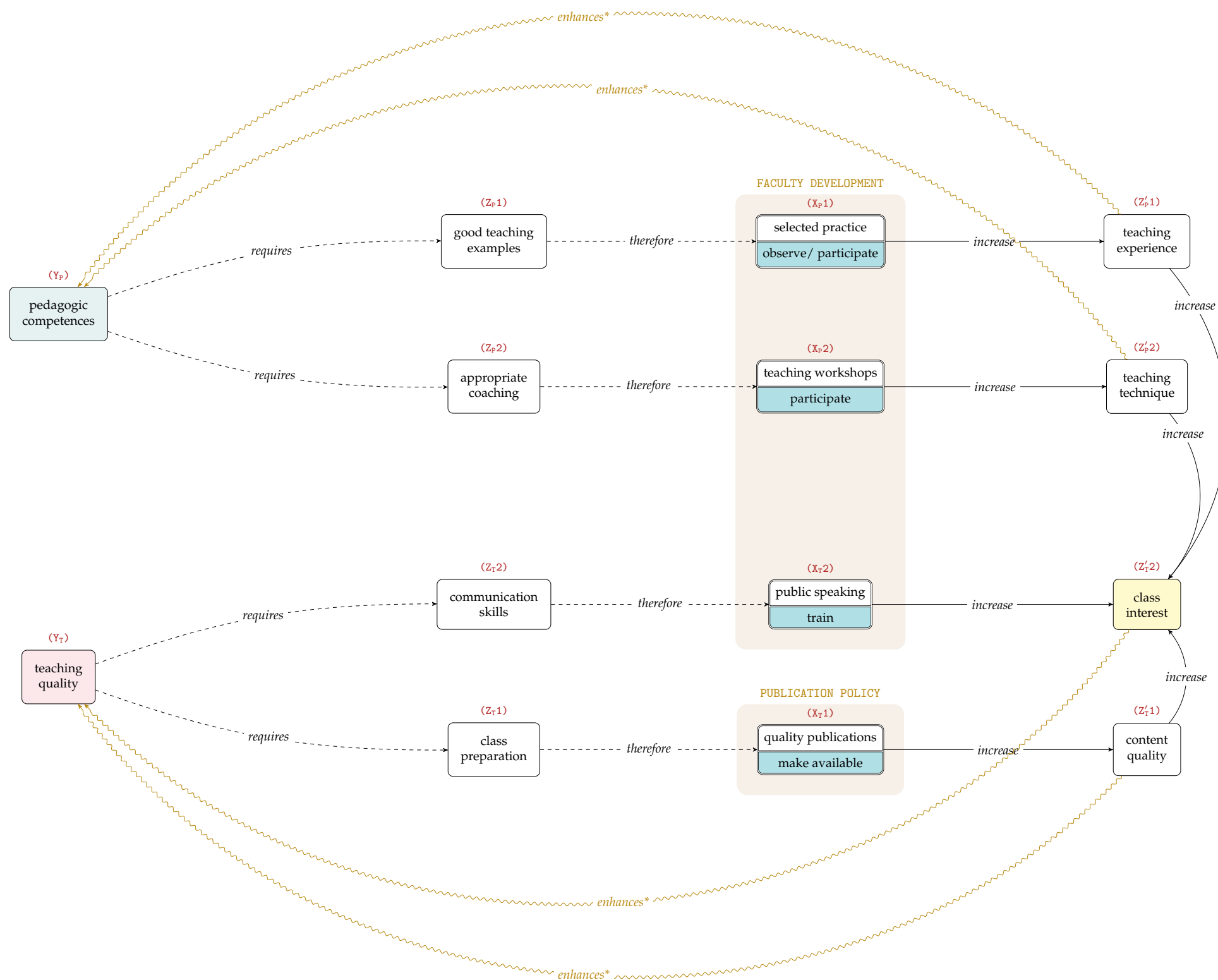


FIGURE 3.1 [DCD] Provisions for education

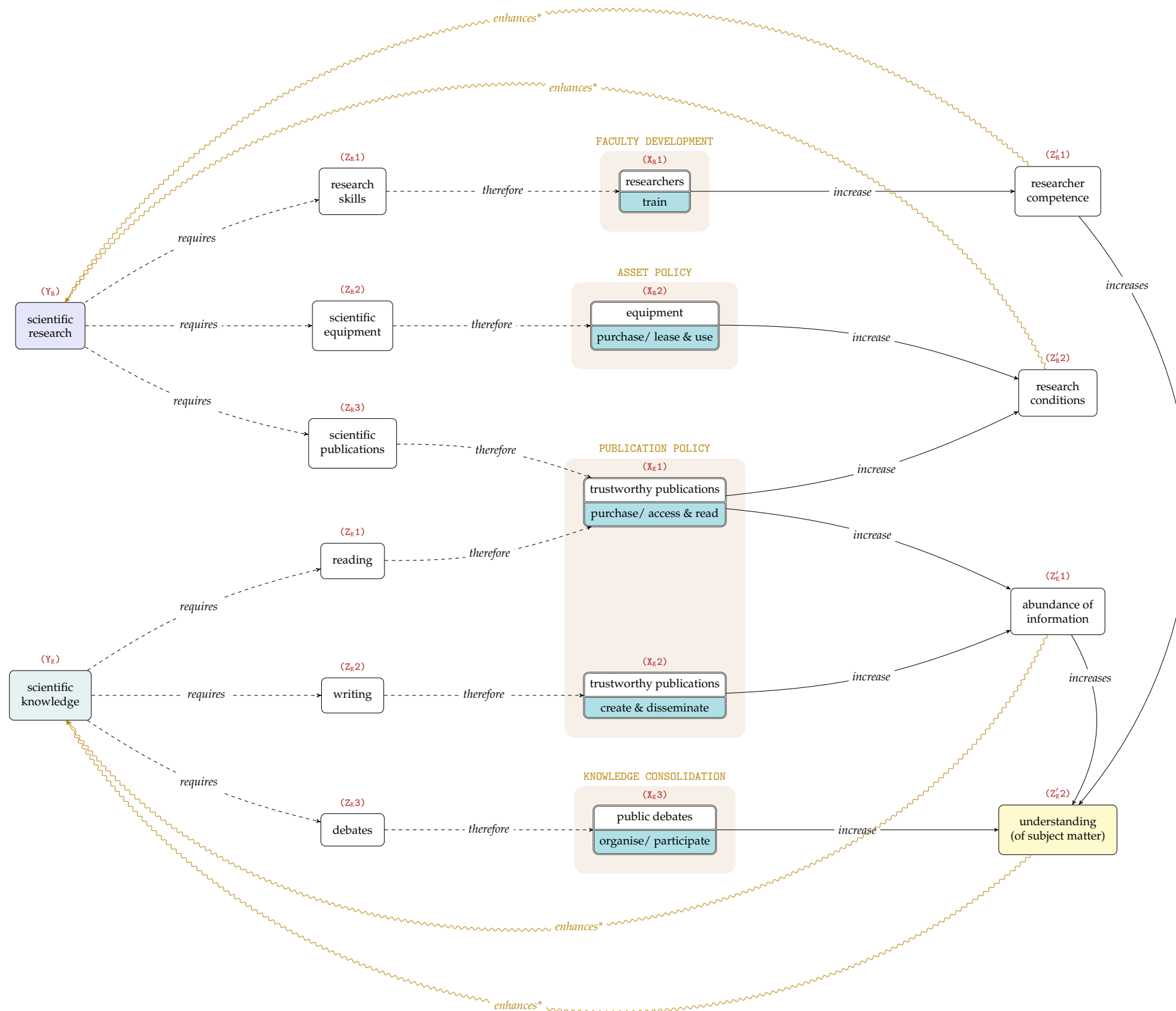


FIGURE 3.2 [DCD] Provisions for understanding

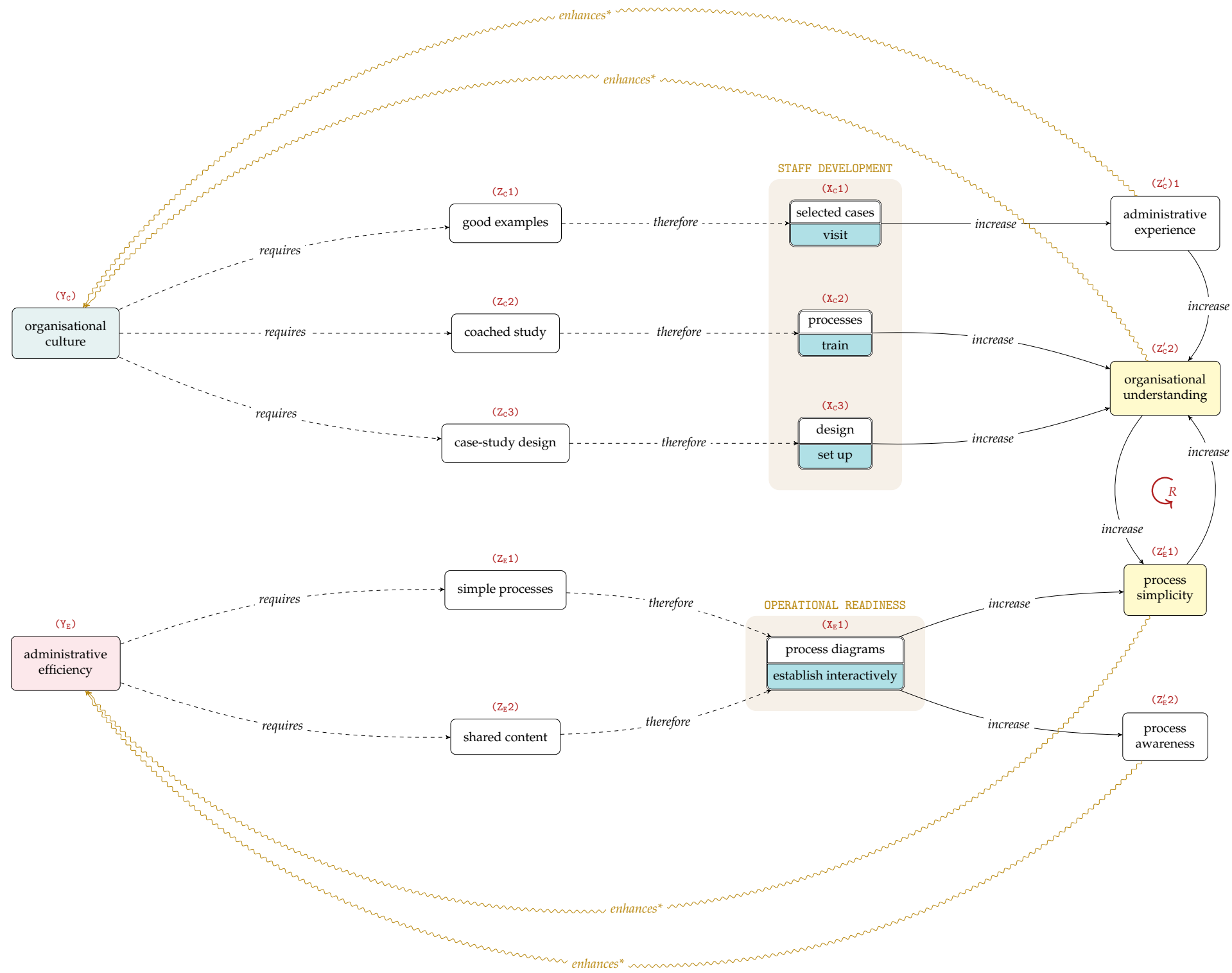


FIGURE 3.3 [DCD] Provisions for administration

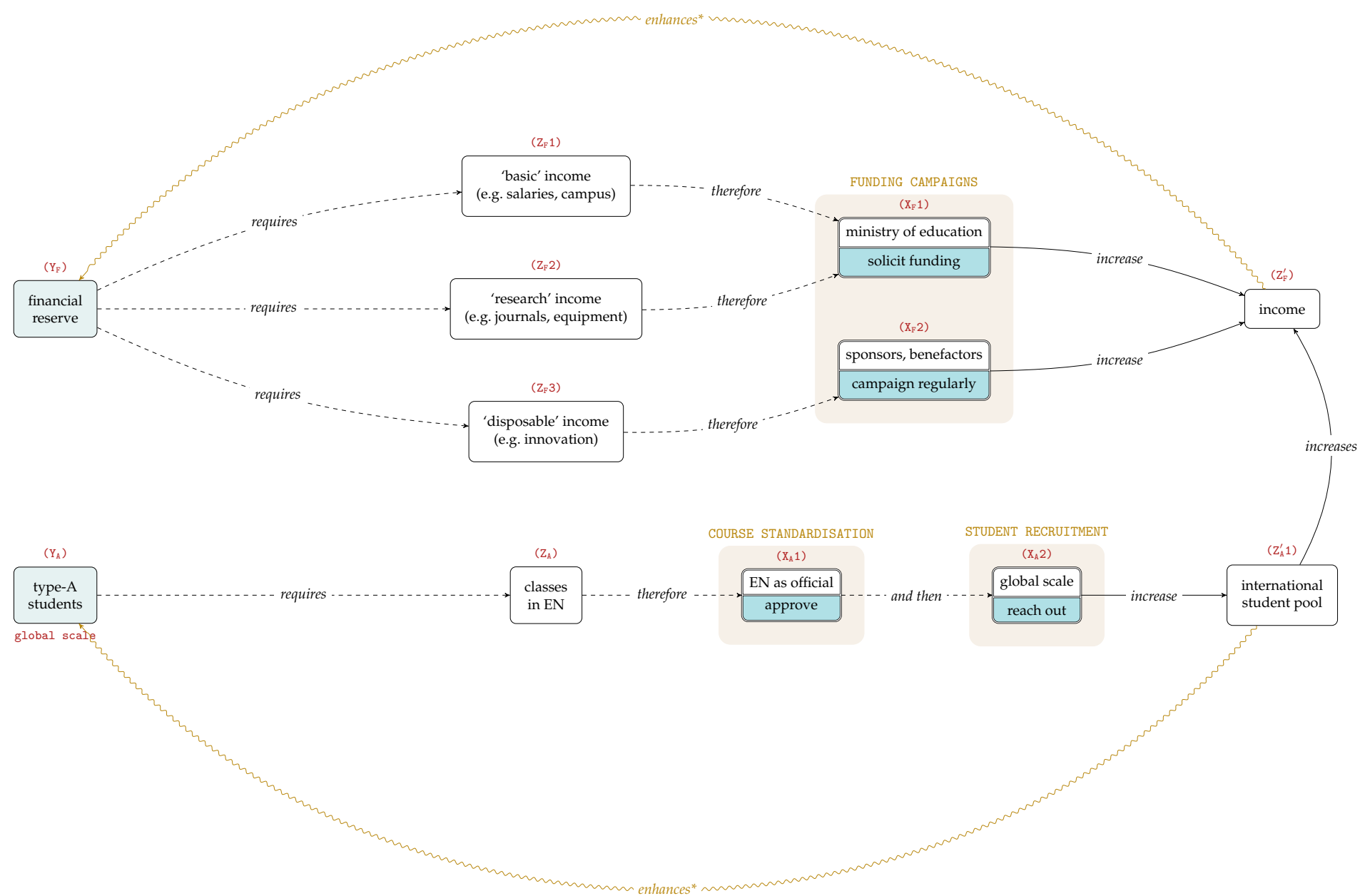


FIGURE 3.4 [DCD] Provisions for resources

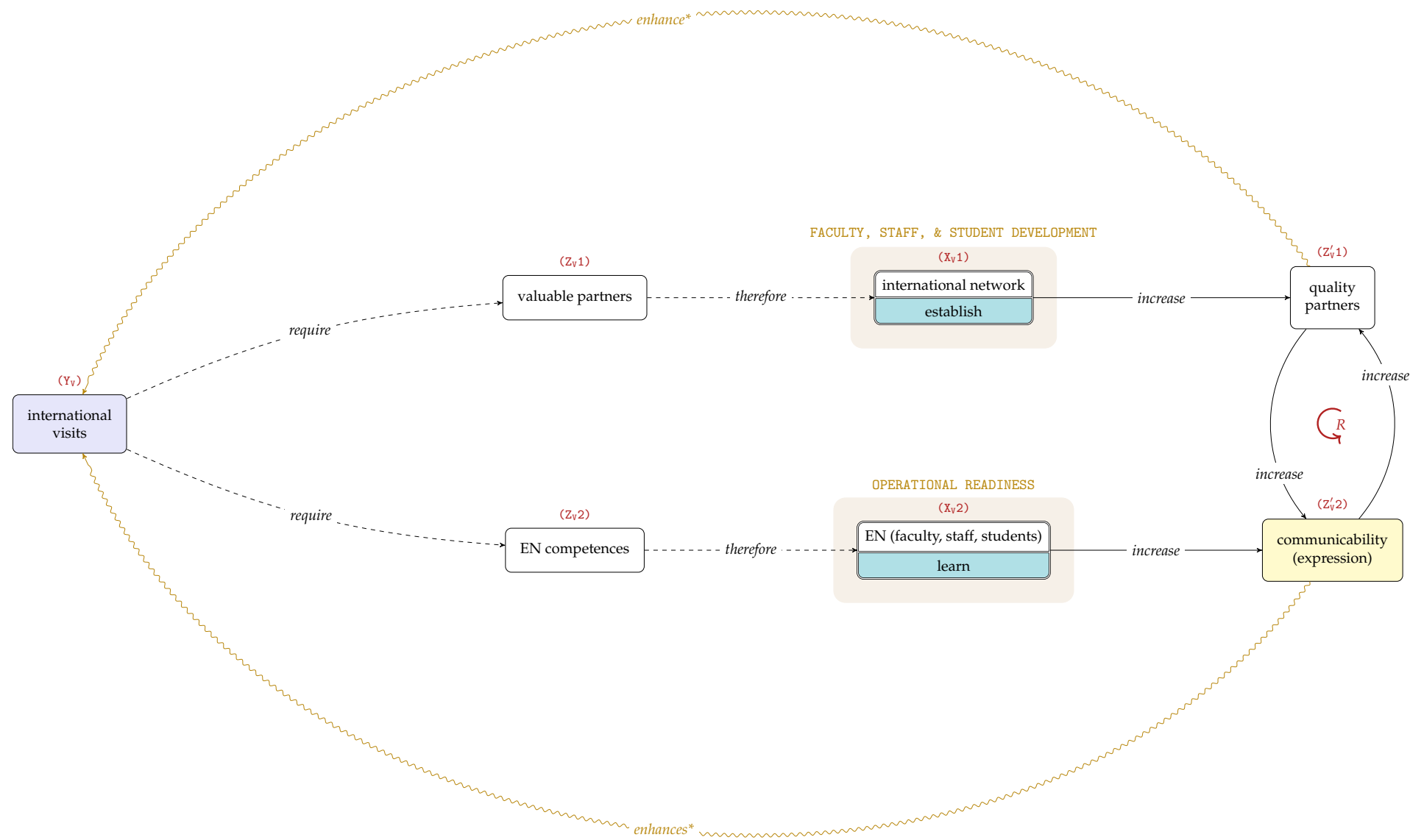


FIGURE 3.5 [DCD] Provisions for extension

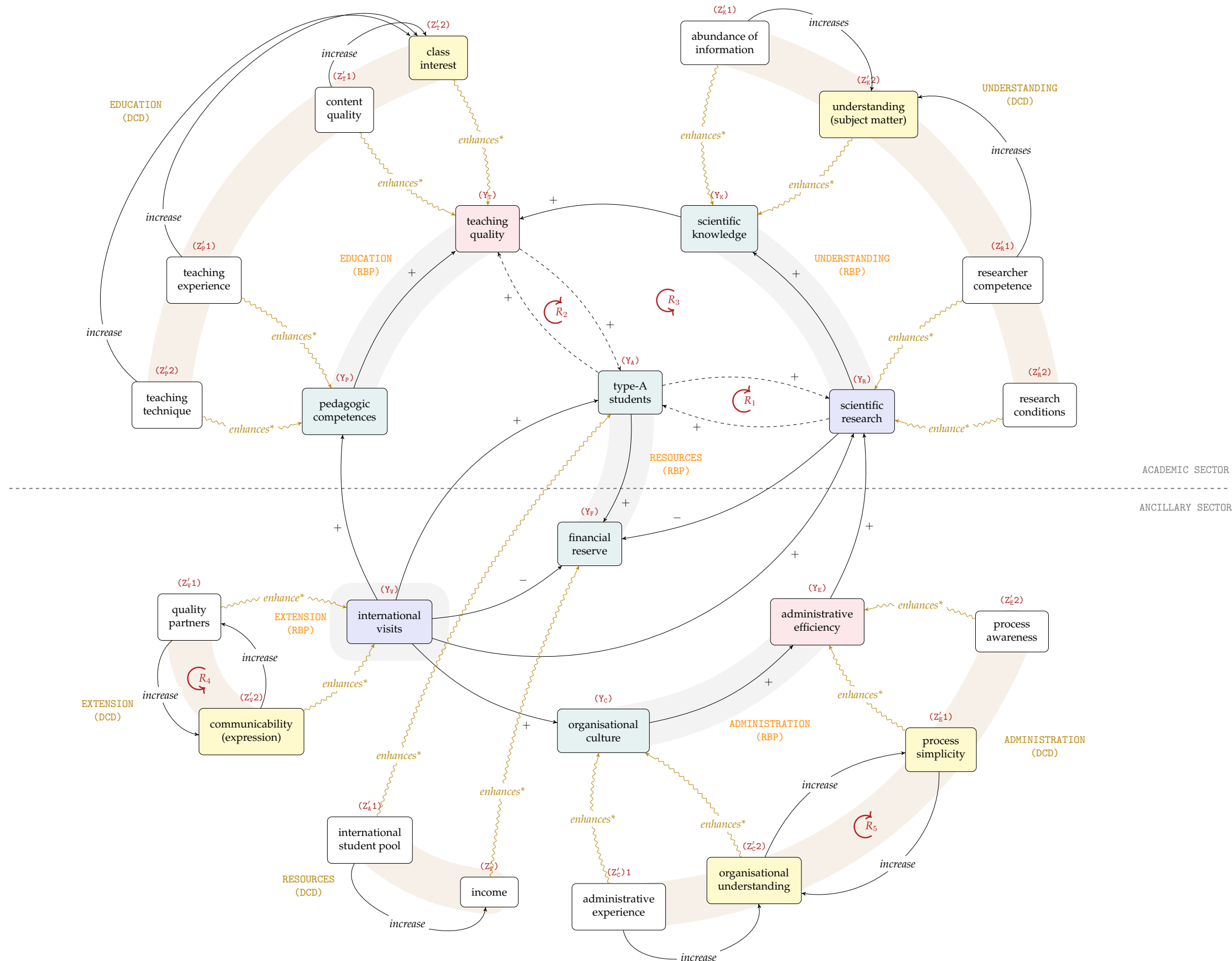


FIGURE 4.1 [DCD-RBP hybrid] Contribution of the provisions through their expected outcomes and their synergistic interactions

4. Prospect (DCD–RBP)

4.1 Enhancements

The hybrid DCD–RBP of Figure 4.1 regains the holistic view of the institution after the ‘departmental’ divisions (§ 3) to indicate how the outcomes (Z’) of the provisions enhance the concerns (Y) of the HEI. This global view is crucial because, as observed in the DCDs (Figures 3.1 to 3.5), some outcomes of the provisions interact between them to produce complex dynamics, including two new feedback loops (Table 4.1).

LOOP	NAME	ELEMENTS
R ₄	‘practice’	select partners, communicability
R ₅	‘simplicity’	organisational understanding, process simplicity

TABLE 4.1 Feedback loops in the contributions (DCD)

The most important outcomes (Z’) of the provisions are identified by two characteristics: (a) they are points of *reinforcement*, such as confluence or ‘R’-type feedback loops, and/ or (b) they enhance either ‘state’ (or ‘indicator’) concerns (e.g. teaching quality, administrative efficiency) or ‘abstract stock’ (e.g. understanding of subject matter or of organisation). Such provision outcomes are highlighted in the ‘departmental’ DCDs, and put in global perspective in the hybrid DCD–RBP (Figure 4.1).

4.2 Coordination of action

In the same way that the DCDs were conceived thematically, the implementation of the provisions may also be carried out by departments. Nonetheless, it is a good idea to create *synergy* by coordinating the actions of common or similar nature across departments (Table 4.2). Benefits of synergy range from achieving practical efficiency (Perdicoúlis, 2014c) to gaining an abstract ‘systemic’ or ‘holistic’ sense of institutional unity.

The coordination of the action through ‘action groups’ (Table 4.2) is optional and transversal across the HEI’s departments. Some of the most likely candidates for coordination are (a) the *faculty development* action group found in the education (Figure 3.1), understanding (Figure 3.2), and extension (Figure 3.5) provisions,

and (b) the *publication policy* action group found in the education (Figure 3.1) and understanding (Figure 3.2) provisions.

PROVISIONS	ACTION GROUPS	DCD
Education	faculty development (teaching) publication policy (teaching)	Figure 3.1
Understanding	faculty development (research) asset policy (research equipment) publication policy (research) knowledge consolidation (science)	Figure 3.2
Administration	staff development (admin) operational readiness (admin)	Figure 3.3
Resources	funding campaigns (public) course standardisation (EN) student recruitment (global)	Figure 3.4
Extension	people development (visits) operational readiness (language)	Figure 3.5

TABLE 4.2 Action groups of the departmental provisions

5. Discussion

5.1 Innovation

The foundational innovation of the project is considering the academic function of the HEI, commonly referred to as ‘research’ and ‘teaching’, to be the grand missions of higher education: ‘understanding’ and ‘education’. Rather than following the popular trends of academic *proxy* measurements (Perdicoúlis, 2013b, 2014e), the project focusses on the essence of good work within the institution (e.g. interesting classes with trustworthy and accessible material), the personal development of everyone who works there (e.g. competences, culture), and an international open-ness as befits academia (Perdicoúlis, 2013a).

The adopted financial model is rather conservative — i.e. depending on public funds, since it is a public institution. More avant-garde alternatives such as selling services or crowdfunding campaigns have not been considered.

5.2 Maturation

The project iterations within and across its phases (§§ 2–4) allow for qualitative improvements in understanding, reasoning, and the argument presented in the respective diagrams. These iterations include verification for interactions between actions (X) or outcomes (Z’) — e.g. synergy, reinforcement, conflict — which are then duly mitigated. Consequently, the project report presents the provisions in their mature versions, with the remaining (and presumably benign) annotations.

5.3 Perspectives

The ‘departmentalised’ model of governance facilitates the elaboration of the provisions (§ 3), allowing close attention to the concerns. Nonetheless, integration is crucial, and the project achieves it with (a) the introduction of the hybrid DCD–RBP diagram (§ 4.1), which brings concerns and provision outcomes together in a single view, regarding the institution as a whole, and (b) the coordination of action across themes (§ 4.2), which brings efficiency to the effort of people and the institution.

6. Conclusion

The project advances the HEI towards a better state of existence through a three-step development: (a) an analysis (§ 2) to understand the situation and capture it in a 'reverse blueprint' (RBP); (b) conception of 'departmental' provisions (DCD) that cater to the concerns of the RBP, through rounds of assessments and mitigations (§ 3); (c) a global view of the project outcomes and how they are expected to make the system function better (§ 4).

The project may be implemented 'as is' (i.e. after study and comprehension), adapted after further contact with stakeholders, or serve as the manifesto of an electoral campaign within the institution. In any case, the project is a demonstration of the practice of Systems PlanningSM, innovating not only in the subject matter, but also in its succinct and transparent communication.

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