

Australian Architectural Education and Competency Framework

The development of the *Australian Architectural Education and Competency Framework* (AAECF) is a joint project in 2015 of the Australian Institute of Architects (the Institute), Architects Accreditation Council of Australia (AACA), Association of Architecture Schools in Australasia (AASA) and Australian Deans of Built Environment and Design (ADBED).

The notes below and the attached AAECF Briefing Document are to provide a pre-briefing to participants in the national consultation process. A more detailed explanation will be given in a Powerpoint presentation by Kirsten Orr at the start of the meeting.

Participants are asked to familiarise themselves with the content of the attached figures, paying particular attention to:

- Mapping of the relevant Performance Criteria from the new *National Standard of Competency for Architects* to the seven Threshold Learning Outcomes (**Figure 4**). What is your opinion about the way the Performance Criteria have been clustered around specific Threshold Learning Outcomes? Is the alignment appropriate?
- Wording of the 36 Framework Statements (**Figures 5 – 12**). What is your opinion about these statements?
 - Are all of the knowledge and skills essential to architectural education captured by the combination of Performance Criteria and Framework Statements?
 - Is the wording of the Framework Statements appropriate / meaningful?
 - Are there refinements that you think should be made to the Framework Statements?

Background

Work on the AAECF completed to date includes,

- Recommendations to the AACA on the interpretation and implementation of the new *National Standard of Competency for Architects* (2015) for the purposes of accreditation of architecture programs under the *Australia and New Zealand Architecture Program Accreditation Procedure* (ANZAPAP);
- Identification of additional knowledge and skills essential to architectural education but not captured by the relevant Performance Criteria in the *Standard*;
- Implementation strategies necessary to ensure appropriate graduate outcomes that meet professional and university requirements;
- Documentation of the alignment between the *Standard* and other mandatory federal government-imposed requirements for higher education, including the *Learning and Teaching Academic Standards for Architecture* (2011) and *Australian Qualifications Framework* (2013).

The first draft of the AAECF was completed in July 2015 by Associate Professor Kirsten Orr (Chair), Professor Stephen Loo and Dr Ceridwen Owen, with additional input from Professor Susan Savage and Rob McGauran. It has been accepted by the Liaison Group of the Institute and AACA.

A national consultation process to test and refine the AAECF will be undertaken from November 2015 – February 2016. It will capture feedback from representatives from all Australian States and Territories, including Institute and AACA nominees, architectural practitioners experienced in accreditation processes and key Heads of Schools of Architecture.

Detailed briefing notes

- This project is situated at an important interface between three different mandatory sets of requirements that impact on the curricula and delivery of university architecture programs (refer **Figure 1**):
 1. **National Standard of Competency for Architects** (AACA, 2015)
The Performance Criteria from the *Standard* underpin the *Australia and New Zealand Architecture Program Accreditation Procedure (ANZAPAP)*;
 2. **Learning and Teaching Academic Standards for Architecture** (ALTC, 2011)
Seven tightly worded meta-statements called Threshold Learning Outcomes encapsulate the required learning and teaching outcomes of university architecture programs. These were developed in 2010 through an extensive consultation process across the profession and academia (refer **Figure 2**);
 3. **Australian Qualifications Framework** (2013)
The *AQF* underpins national regulatory and quality assurance arrangements for education and training, and defines expected learning outcomes for each qualification type, including Level 9 Masters Degree, which is the level of the Master of Architecture qualification.Note that the *ANZAPAP* is jointly owned by the Institute and the Architects Accreditation Council of Australia. The *Learning and Teaching Academic Standards for Architecture* and *AQF* are federal government requirements for Australian higher education.
- The *AAECF* project has reviewed the new *National Standard of Competency for Architects* to identify the Performance Criteria most relevant to the accreditation of architecture programs. 37 Performance Criteria will be referenced into the *Australia and New Zealand Architecture Program Accreditation Procedure (ANZAPAP)*
- Levels of achievement expected of graduates of Masters of Architecture are established for each Performance Criterion from the *Standard*, with reference to *AQF* definitions. The three levels of achievement are called Capability Categories (refer **Figure 3**):
 - Knowledge (K)** = 15 Performance Criteria (lowest level of graduate capability)
 - Skills (S)** = 12 Performance Criteria
 - Application of Knowledge and Skills (A)** = 10 Performance Criteria (highest level of graduate capability)

The major issues being addressed by the *AAECF* are:

1. **How can requirements from the new *Standard* be most effectively integrated into the *ANZAPAP* accreditation procedure?**
The new *Standard* presents challenges for architectural education because of the repetition in Performance Criteria that inevitably occurs between the different Elements, and the structure of the *Standard* as a linear architectural design and delivery process that is difficult to simulate/replicate in the university context.
 2. **How can the Performance Criteria from the new *Standard* be meaningfully mapped across onto the seven different Subject Areas of a university architecture program?**
 3. **How can the Performance Criteria be genuinely engaged with and interpreted within the university setting?**
- Performance Criteria are too repetitive and the seven Subject Areas assessed by the *ANZAPAP* are too broad to accurately map against each other. This poor interface results in the Performance Criteria tending to cluster around only three of the seven Subject Areas (Design, Technical Studies, Practice). More detailed Framework Statements are required to meaningfully integrate the Performance Criteria with the seven Subject Areas within a typical university architecture program.

- Performance Criteria can be successfully mapped against the Threshold Learning Outcomes, allowing them to be clustered into relational subsets (refer **Figure 4**). However, there are two Threshold Learning Outcomes for which it is impossible to identify relevant Performance Criteria. This demonstrates that the Performance Criteria do not capture all of the essential elements of an architectural education. For example, Threshold Learning Outcome 1.2 relates to research and emergent knowledge, the engagement with which is pivotal to higher education, but for which there are no Performance Criteria.
- It is not possible to map the Threshold Learning Outcomes against individual Subject Areas. Therefore Framework Statements are required to relate the Threshold Learning Outcomes to the seven Subject Areas within a university architecture program.
- The proposed Framework Statements attempt to provide a clearer and broader understanding of the meaning of the Performance Criteria within the context of each of the seven Subject Areas assessed by the *ANZAPAP*. The proposition is that if a university architecture program meets the requirements of the Framework Statements, it will also satisfactorily address the mandatory Performance Criteria from the *Standard*, as well as the federal government requirements embodied in the Threshold Learning Outcomes and *AQF*.
- **Figure 5** is the matrix of Framework Statements to be tested and refined during the national consultation process. It comprises 36 statements that relate the Threshold Learning Outcomes to the seven Subject Areas of a university architecture program. The wording of each statement is informed by the specific Performance Criteria it relates to.
- **Figures 6 to 12** are organised by Threshold Learning Outcome (1.1 – 3.3) and interrogate how the 37 relevant Performance Criteria from the new *Standard* might be implemented in the *ANZAPAP*; how they might be interpreted in the context of university architecture programs; and how they might be genuinely engaged with in the curricula of the seven Subject Areas.

Conclusion

- The *AAECF* allows the *Standard* to be interpreted in the context of the accreditation of university architecture programs under the *ANZ APAP*. It documents the alignment between the relevant Performance Criteria from the *Standard* and the requirements of the Threshold Learning Outcomes and *AQF*.
- The *AAECF* accepts the Threshold Learning Outcomes as high-level, immutable meta-statements of the desirable qualities of architectural education. The Threshold Learning Outcomes provide the organising principle for the relevant Performance Criteria from the *Standard*.
- The *AAECF* accepts the convention of 7 Subject Areas typical of university architecture programs, but renames them for contemporary relevance. An *AAECF* statement has been developed for each of the Subject Areas to describe the learning outcome expectations for graduates for each Threshold Learning Outcome and related Performance Criteria.

Associate Professor Kirsten Orr

28 October 2015

University of Technology Sydney

Chair *Australian Architectural Education and Competency Framework*

Chair National Education Committee

Chair NSW Education Committee

Figure 1: The AAECF is at the interface between three mandatory sets of requirements that impact on the design of curricula and delivery of architectural education

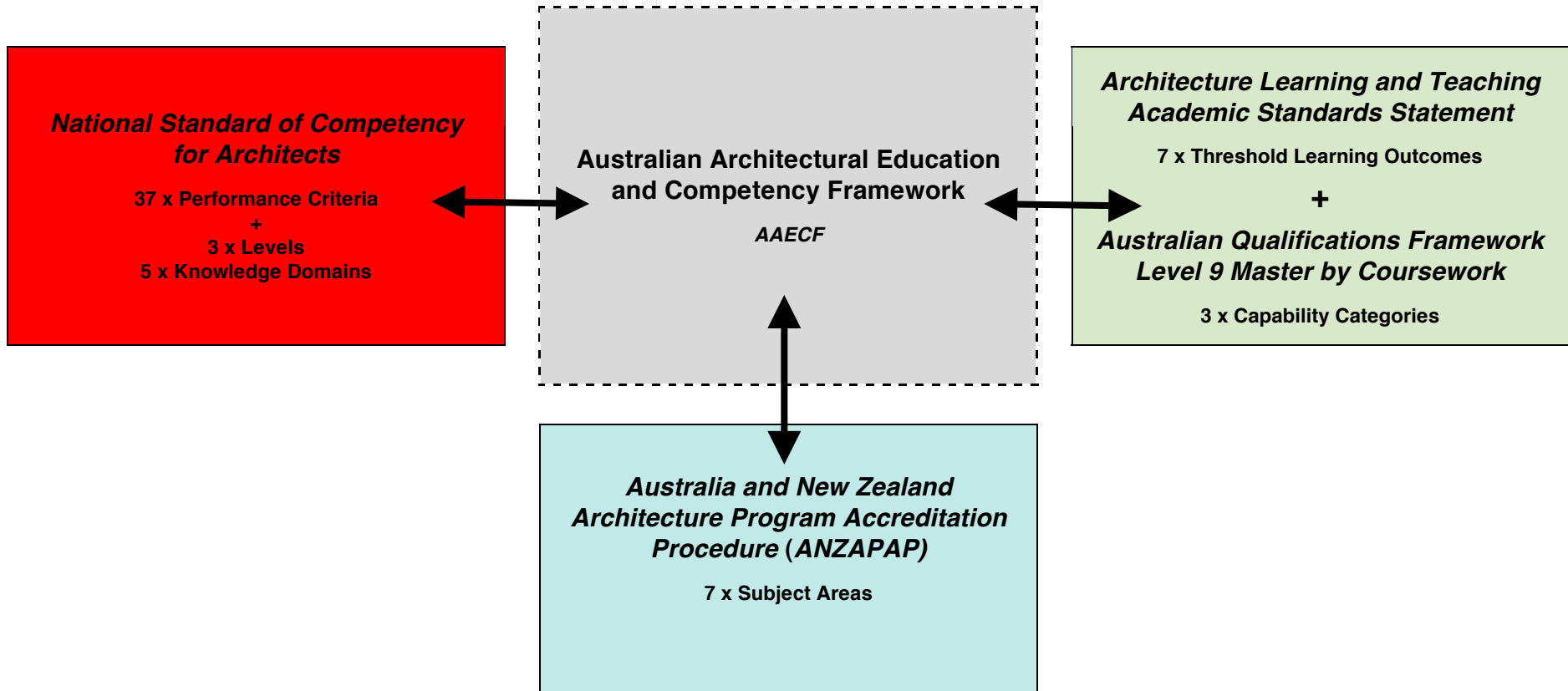


Figure 2: Threshold Learning Outcomes for Architecture

Learning and Teaching
Academic Standards Project
ARCHITECTURE
Learning and Teaching
Academic Standards Statement
September 2011



AUSTRALIAN
LEARNING
& TEACHING
COUNCIL

Promoting excellence in higher education

An initiative of the Australian Government Department of Education, Employment and Workplace Relations

Graduates of the Master of Architecture will be capable of:

- Knowledge**
- 1.1 Identifying, explaining and working with appropriate knowledge of architecture, its history and precedents and with knowledge of people, environments, culture, technology, history and ideas pertinent to architectural propositions
 - 1.2 Researching and evaluating emergent knowledge as it becomes necessary to fulfil the profession's role in society

- Design**
- 2.1 Propositional, imaginative, iterative, integrated thinking to synthesise complex architectural designs
 - 2.2 Supporting their decision-making using evidence-based, reasoned argument and judgement pertaining to architectural propositions

- Professional practice**
- 3.1 Communicating with a variety of audiences in appropriate ways
 - 3.2 Demonstrating their understanding of architecture's status as an ethical service-oriented profession committed to responsible care for the inhabited environment
 - 3.3 Engaging proactively in the effective procurement of architectural propositions

Figure 3: Capability Categories

Levels of achievement expected of graduates of a Masters of Architecture are established for each Performance Criterion from the *Standard*, with reference to *Australian Qualifications Framework* definitions. The three levels of achievement are called Capability Categories.

Knowledge (K)

Knowledge is the ability to retrieve, recognise and recall relevant information and to grasp the meaning of material through interpreting, summarising, and explaining. The AQF defines “Knowledge” as the “*advanced and integrated understanding of a complex body of knowledge in one or more disciplines or areas of practice.*”

Verbs:

appreciate, classify, consider, compare, comprehend, define, describe, draw upon, evaluate, exemplify, identify, illustrate, infer, relate, understand

Evidence provided to a National Visiting Panel:

Evidence of the breadth of disciplinary knowledge in each subject area will be articulated in unit outlines, lecture materials and assessment criteria.

Skills (S)

Skills are the ability to perform discrete activities and make judgements in new and concrete situations informed by disciplinary knowledge including the use of methods, techniques and technologies, concepts, principles, laws and theories. The AQF defines “Skills” as “*expert, specialised cognitive and technical skills in a body of knowledge or practice to independently:*

- *Analyse critically, reflect on and synthesis complex information, problems, concepts and theories*
- *Research and apply established theories to a body of knowledge or practice*
- *Interpret and transmit knowledge, skills and ideas to specialist and non-specialist audiences.*”

Verbs:

analyse, appraise, articulate, collaborate, coordinate, demonstrate, describe, design, document, draw, formulate, interpret, investigate, narrate, negotiate, predict, prepare, present, reason, represent, research, test

Evidence provided to a National Visiting Panel:

Evidence of disciplinary skills in each subject area will be articulated in discrete assignment tasks including examination papers, essays, reports, drawings, models and other multi-media presentations.

Application of Knowledge and Skills (A)

Application is the ability to constructively participate, collaborate and invest design ambition in the creative synthesis of reasoning, knowledge, expert judgement and application of skills to unique and complex situations. The AQF defines “Application of Knowledge and Skills” as demonstrating “*autonomy, expert judgement, adaptability and responsibility as a practitioner or learner.*”

Verbs:

compose, create, critique, design, disseminate, distil, extend, generalise, generate, implement, inform, interrogate, justify, resolve, specify, synthesise, translate

Evidence provided to a National Visiting Panel:

Evidence of the application and synthesis of disciplinary knowledge and skills across all subject areas will be articulated in substantial project-based student work.

Figure 4: Mapping each Performance Criterion only once against Threshold Learning Outcomes

Performance Criteria

1.4 Identification of factors that may impact on client project requirements and objectives.	S
4.2 Evaluation of design options against values of physical, environmental and cultural contexts.	K
1.2 Establishment, analysis and evaluation of client project requirements and objectives.	S
1.7 Preparation of project brief for approval by client and relevant stakeholders.	S
2.1 Identification, analysis and integration of information relevant to siting of project.	A
2.2 Application of principles controlling planning, development and design for the project site.	A
3.1 Design response integrates the objectives of brief, user intent and built purpose.	S
3.2 Application of creative imagination, aesthetic judgement and critical evaluation in formulating design options.	A
3.3 Design response incorporates assessment of the physical location and relevant wider regional, contextual and environmental issues.	A
3.5 Exploration and application of ordering, sequencing and modelling of three-dimensional form and spatial content.	S
4.1 Evaluation of design options in relation to project requirements.	S
4.3 Application of creative imagination aesthetic judgement to produce coherent design.	A
4.5 Investigation and integration of appropriate structural, construction, service and transport systems in the project design.	A
4.6 Investigation and integration of appropriate material selection for the project design.	A
5.1 Application of creative imagination and aesthetic judgement in producing a resolved project design in regard to site planning, physical composition and spatial planning as appropriate to the project brief.	A
5.2 Resolution of project design addressing all building occupancy and functional aspects including spatial requirements and relationships and circulation aspects.	A
5.3 Evaluation and integration of regulatory requirements.	S
2.3 Evaluation of factors influencing and impacting on project cost.	K
3.4 Design response incorporates assessment of relevant legislation, codes and industry standards.	S
3.6 Assessment of the economic impact on the project of design strategies and options.	K
3.7 Assessment and integration of construction systems and materials consistent with project brief.	S
4.7 Coordination and integration of appropriate environmental systems, including for thermal comfort, lighting and acoustics.	A
5.5 Integration of materials and components based upon an understanding of their physical properties.	S
6.5 Nomination of quality and performance standards with regard to selected materials, finishes, fittings components and systems.	K
3.8 Application of manual and digital graphic techniques and modelling to describe three-dimensional form and spatial relationships.	S
6.2 Continuing coordination and integration of information and project material from relevant consultants, specialists and suppliers.	K
6.4 Timely completion and communication of accurate and comprehensible documents that will include, as required, drawings, models, specifications, schedules and other relevant modes of information.	S
9.8 Clear and consistent communication with client and relevant stakeholders throughout project.	K
1.1 Preparation & endorsement of an agreement between client and Architect. This agreement will clearly communicate terms, services to be provided, and fees appropriate for the scale and type of project.	K
1.5 Knowledge of different procurement processes available and evaluation of the impact these have on the project.	K
4.4 Inclusion of expertise of relevant specialists and consultants in developing the project design.	K
7.1 Identification of available procurement methods and assessment of relevance and application to the project.	K
8.1 Selection process for appropriately qualified contractors is in accordance with procurement method and project contract.	K
9.1 Knowledge and implementation of appropriate practice model to ensure efficient, effective and ethical professional service.	K
9.5 Knowledge of the legal and ethical obligations relating to copyright and intellectual property requirements.	K
9.6 Knowledge and application of professional ethics and ethical practices in respect to practice management and provision of professional service.	K
9.7 Knowledge of legal and regulatory requirements and obligations in regard to architectural practice, practice management and registration as an architect.	K

1.1 Identifying, explaining and working with appropriate knowledge of architecture, its history and precedents and with knowledge of people, environments, culture, technology, history and ideas pertinent to architectural propositions **K**

1.2 Researching and evaluating emergent knowledge as it becomes necessary to fulfil the profession's role in society **K**

2.1 Propositional, imaginative, iterative, integrated thinking to synthesise complex architectural designs **S+A**

2.2 Supporting their decision-making using evidence-based, reasoned argument and judgement pertaining to architectural propositions **S**

3.1 Communicating with a variety of audiences in appropriate ways **S**

3.2 Demonstrating their understanding of architecture's status as an ethical service-oriented profession committed to responsible care for the inhabited environment **A**

3.3 Engaging proactively in the effective procurement of architectural propositions **A**

Threshold Learning Outcomes

Figure 5: The matrix of Framework Statements to be tested and refined during the consultation process

Threshold Learning Outcomes	Design	Technology	History & Theory	Practice	Ecology	Communication	Diversification & Specialisation
1.1 Identifying, explaining and working with appropriate knowledge of architecture, its history and precedents and with knowledge of people, environments, culture, technology, history and ideas pertinent to architectural propositions	K Knowledge of precedents, processes and contextual factors influencing architectural design	Knowledge of traditional and contemporary structural, construction, service and material systems	Critical understanding of historical and theoretical knowledge in architecture and the design of the built environment	Knowledge of the social, cultural, legal and ethical structures influencing architectural practice	Knowledge of ecology encompassing the complexity of relationships between people and natural and built environments	Knowledge of methods for the expression, representation, analysis and articulation of architectural design	
1.2 Researching and evaluating emergent knowledge as it becomes necessary to fulfil the profession's role in society	K Research skills to advance knowledge of contemporary and emergent design thinking and processes in response to social issues and challenges	Research skills to advance technical knowledge of contemporary and emergent structural, construction, service and material systems at various scales	Research skills in history and theory to support scholarly discourse and contribute to the advancement of disciplinary knowledge	Research skills supporting lifelong learning in the context of change and transformation in the architectural profession and related sectors to fulfil the profession's role in society	Research skills to support critical thinking on the diversity of environmental, social and cultural values in sustainability to inform design and respond to contemporary social issues and challenges	Research skills to advance knowledge of contemporary and emergent communication practices supporting critical and inventive thinking	
2.1 Propositional, imaginative, iterative, integrated thinking to synthesise complex architectural designs	S + A Application of imaginative and iterative thinking to synthesise complex factors in the generation of architectural propositions including critical appraisal of requirements of the project brief and site	Application of technical and creative skills to integrate structural, construction, service and material systems at various scales in architectural design propositions	Application of critical skills engaging historical and theoretical knowledge to generate complex architectural proposals	Application of knowledge of legislative frameworks encompassing planning and building processes for the effective procurement of architectural propositions integrating various relevant legislative, client and user requirements	Application of technical, theoretical and creative skills to generate ecologically informed architectural propositions engaging environmental, social and cultural values	Application of knowledge and skills in diverse modes of communication to inform design thinking	
2.2 Supporting their decision-making using evidence-based, reasoned argument and judgement pertaining to architectural propositions	S Cognitive and creative skills to critically evaluate and justify design concepts, decisions and solutions	Technical and creative skills to evaluate and justify structural, construction, service and material systems at various scales	Critical skills to position architectural propositions in relation to relevant domains of knowledge	Using skills pertaining to professional practice to support decision-making including consideration of factors of cost and the integration of legislation, codes and industry standards	Technical, theoretical and creative skills to evaluate and justify architectural propositions in an ecological context	Skills in communication and research to express ideas, to access, use and interpret data, and to justify decisions across all stages of an architectural project	
3.1 Communicating with a variety of audiences in appropriate ways	S Articulation and representation of architectural design ideas and propositions using an appropriate variety of media	Knowledge and skills in documentation employing appropriate conventions and graphic techniques to communicate the technical requirements of the design	Skills in oral, written, visual, digital and material media to communicate architectural ideas to a variety of audiences	Knowledge and skills in forms of professional communication applicable to processes of coordination, integration and exchange of information with specialist and non-specialist audiences	Knowledge and skills in communicating the ecological factors informing design to specialist and non-specialist audiences	Knowledge and skills in traditional and emerging media to support communication of 3D form and spatial relationships with diverse audiences	
3.2 Demonstrating their understanding of architecture's status as an ethical service-oriented profession committed to responsible care for the inhabited environment	A Knowledge and skills to critically and ethically appraise and creatively respond to cultural and legal considerations in architectural design	Knowledge of project procurement methods and underpinning ethical, legal and regulatory factors	Critical skills to interrogate architecture's position as an ethical service-oriented profession and the implications for design	Knowledge of the architect's professional, ethical and legal responsibilities to evaluate and mitigate impacts of practice including models of practice and management, intellectual property, and relationships with consultants, clients, users, and the broader public	Knowledge of the architect's responsibility for ecologically sustainable design including participatory and collaborative processes that engage the values of multiple stakeholders	Skills in engaging and communicating with the diverse audiences implicated in the design of the built environment	
3.3 Engaging proactively in the effective procurement architectural propositions	A						

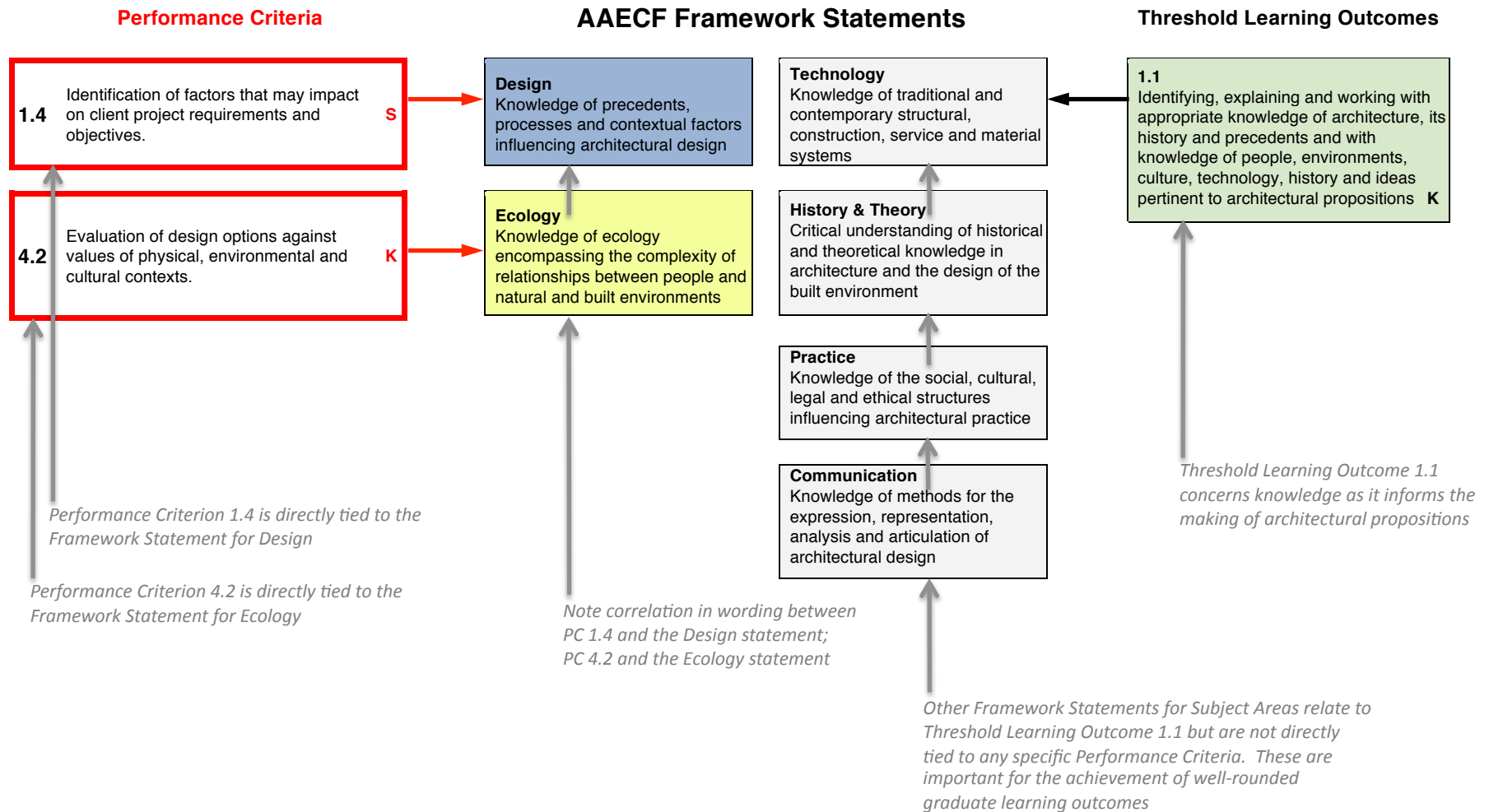


Figure 6

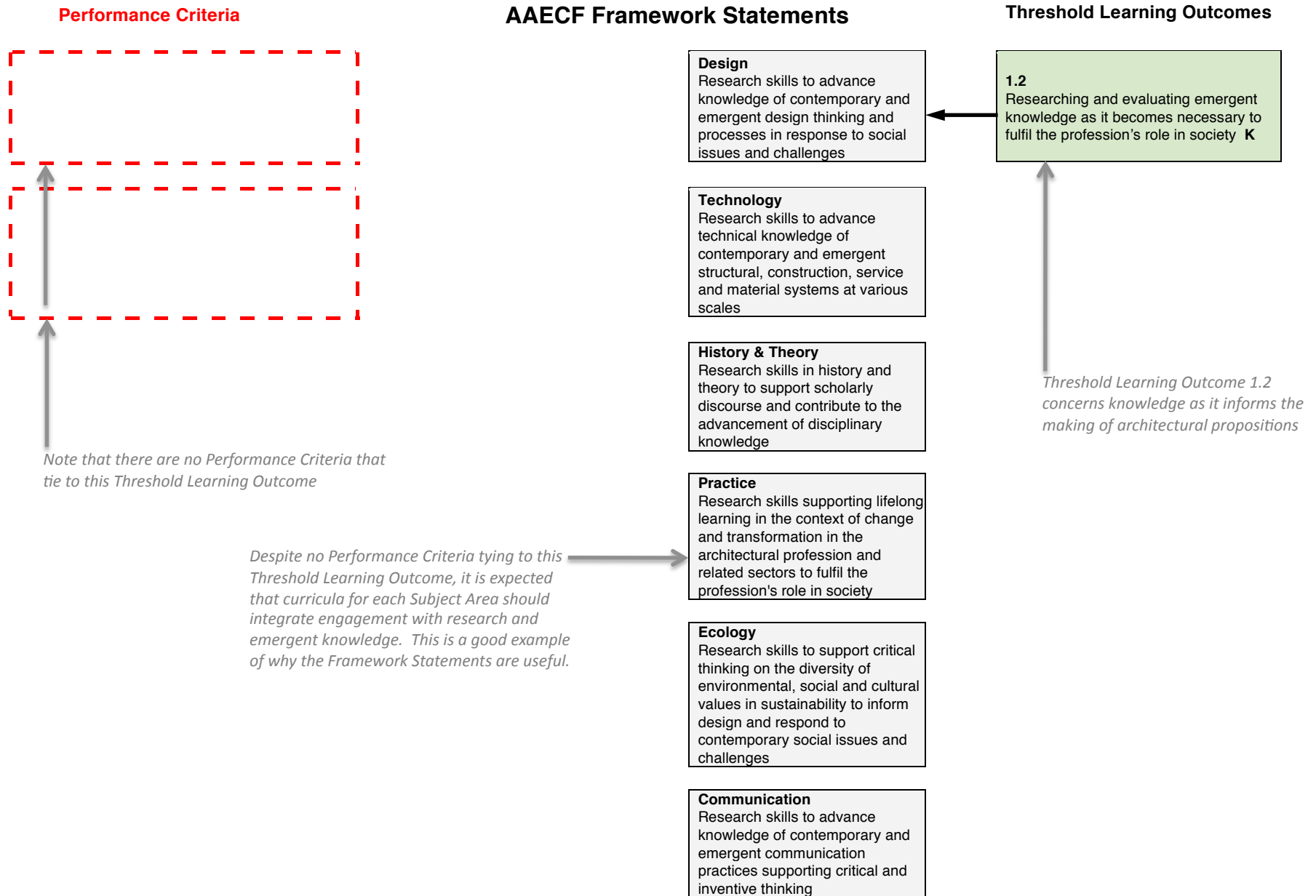


Figure 7

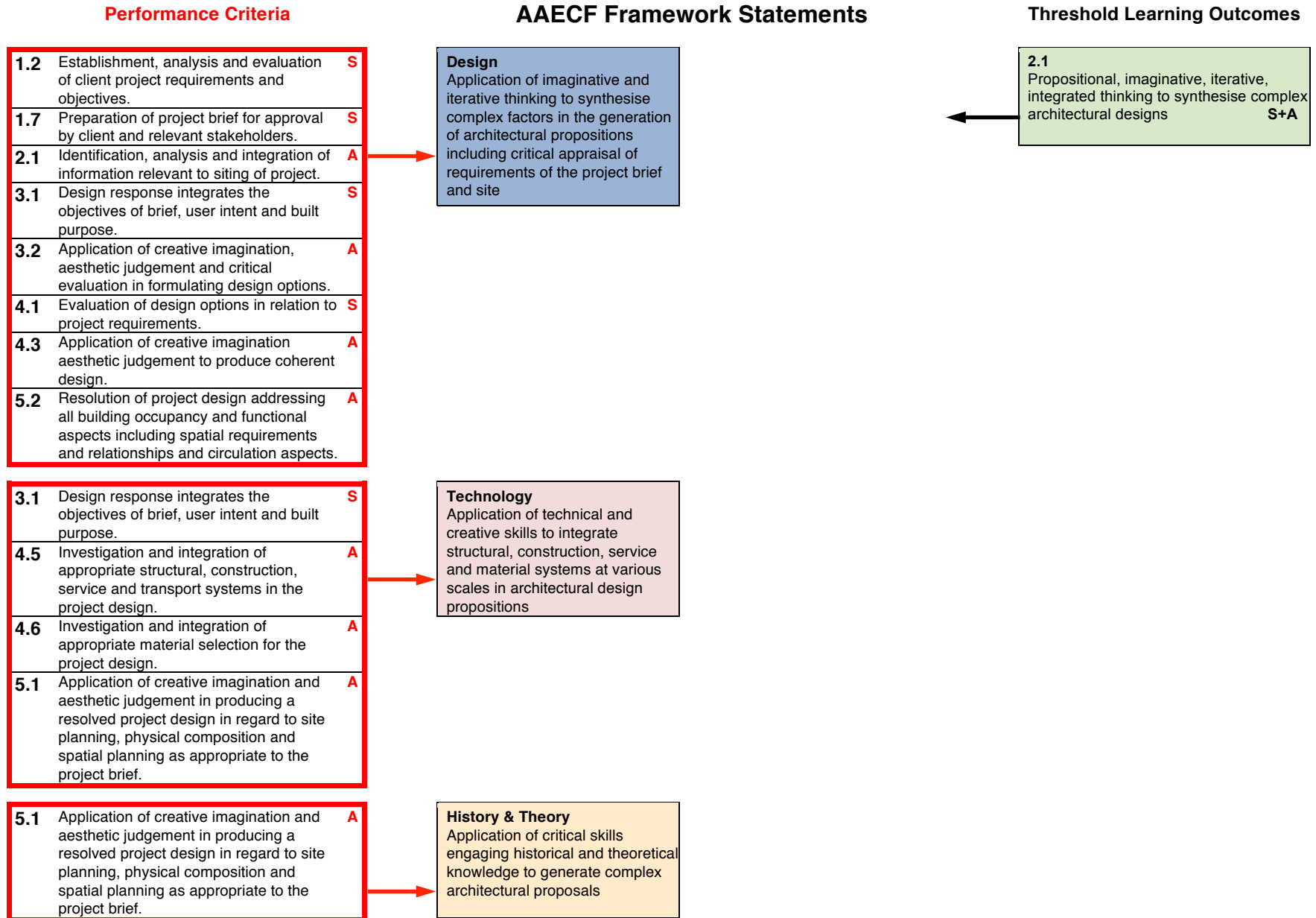


Figure 8a

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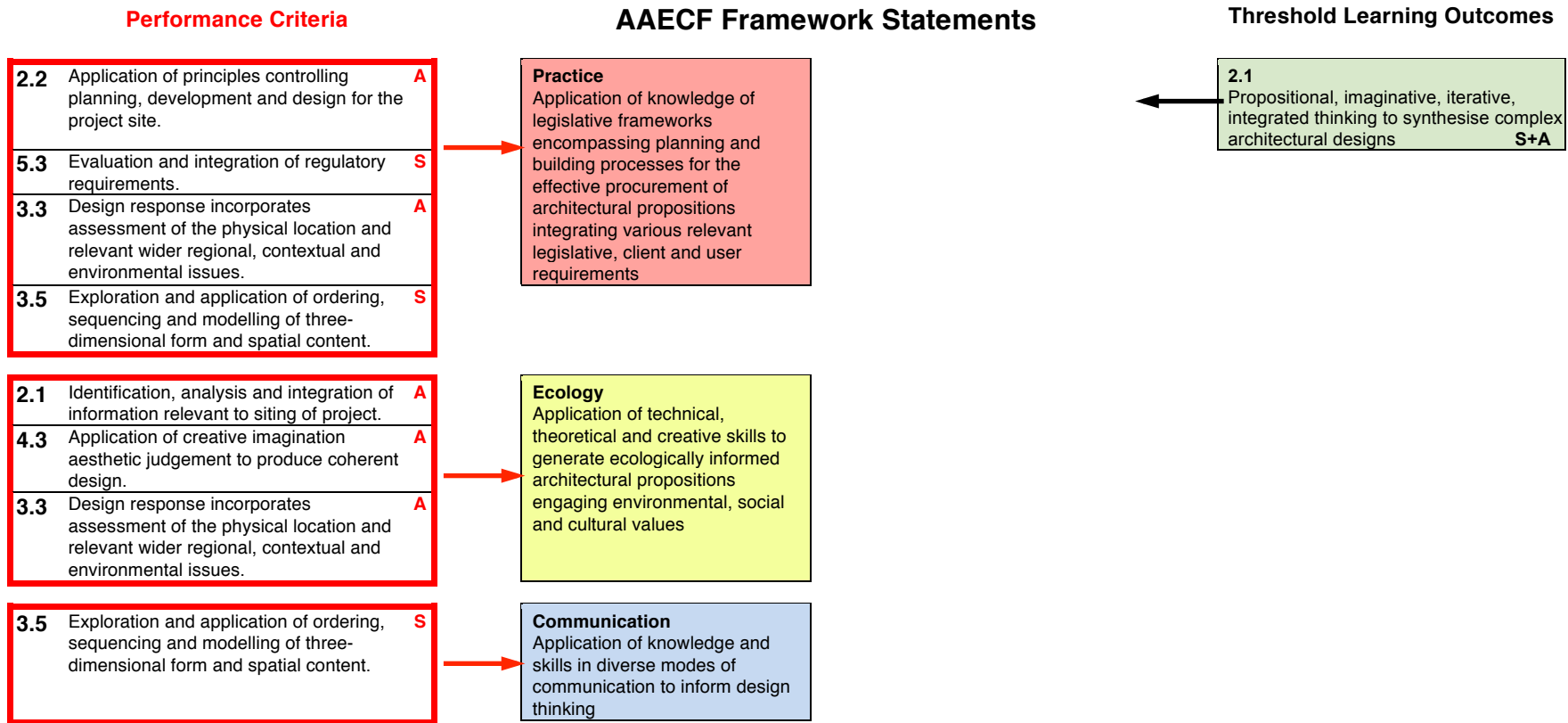


Figure 8b

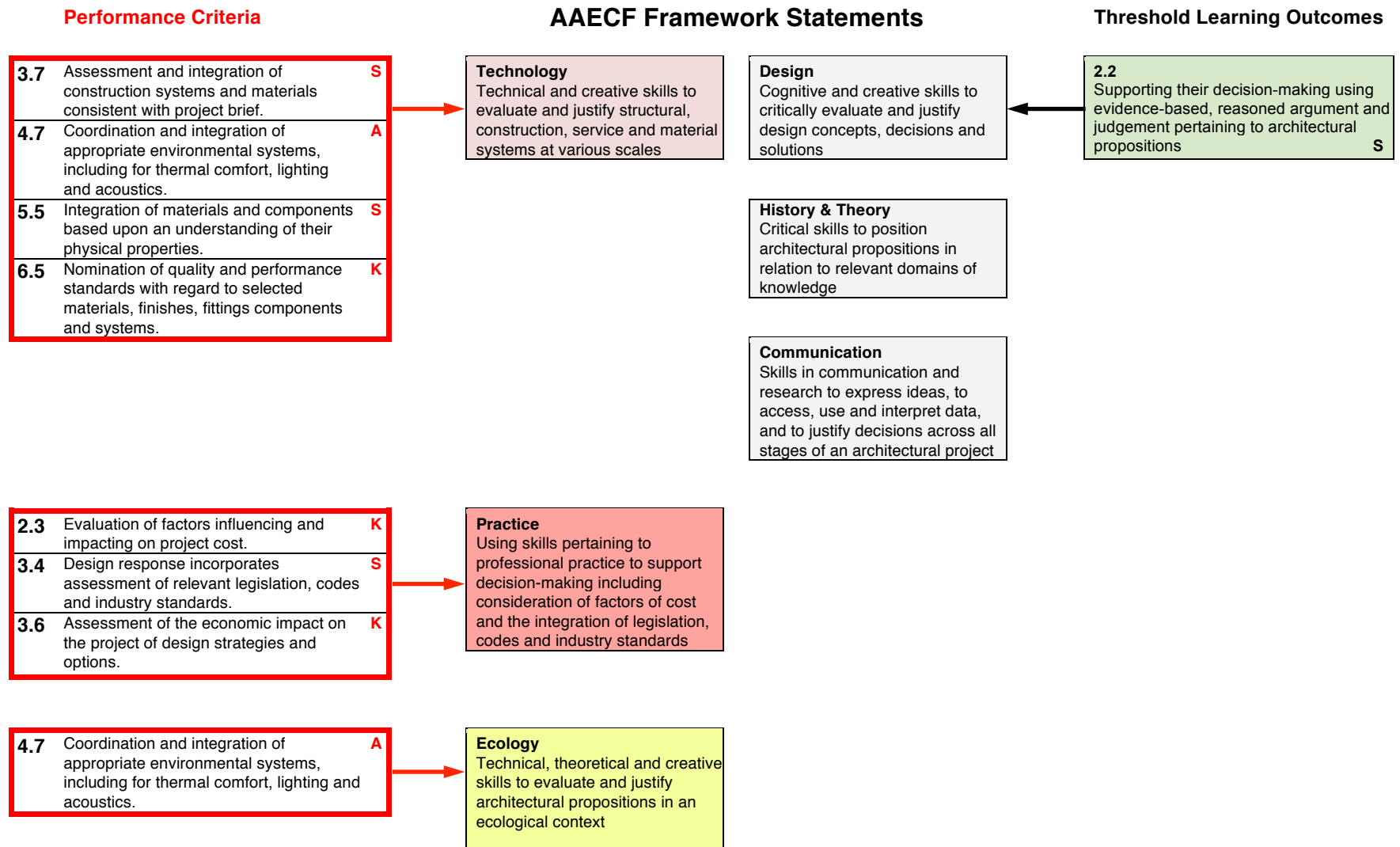


Figure 9

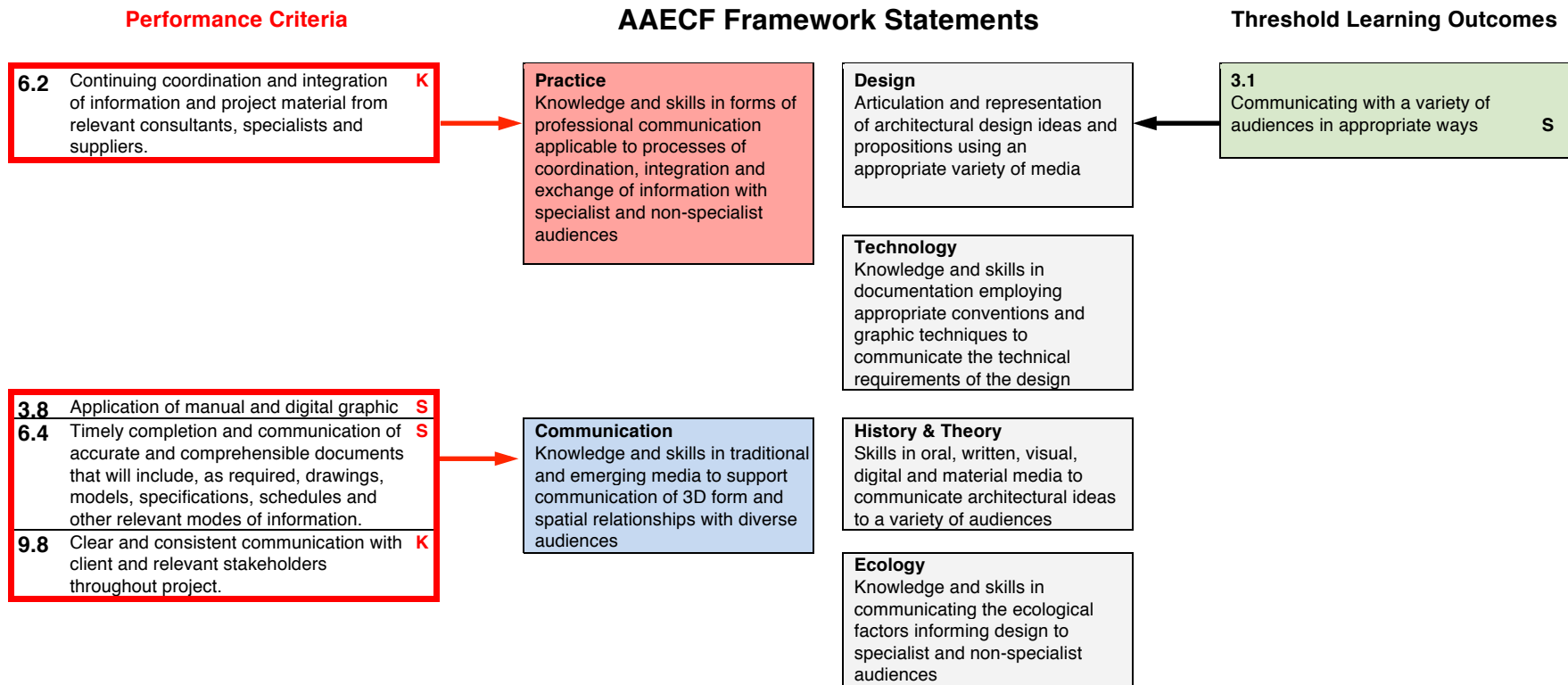


Figure 10

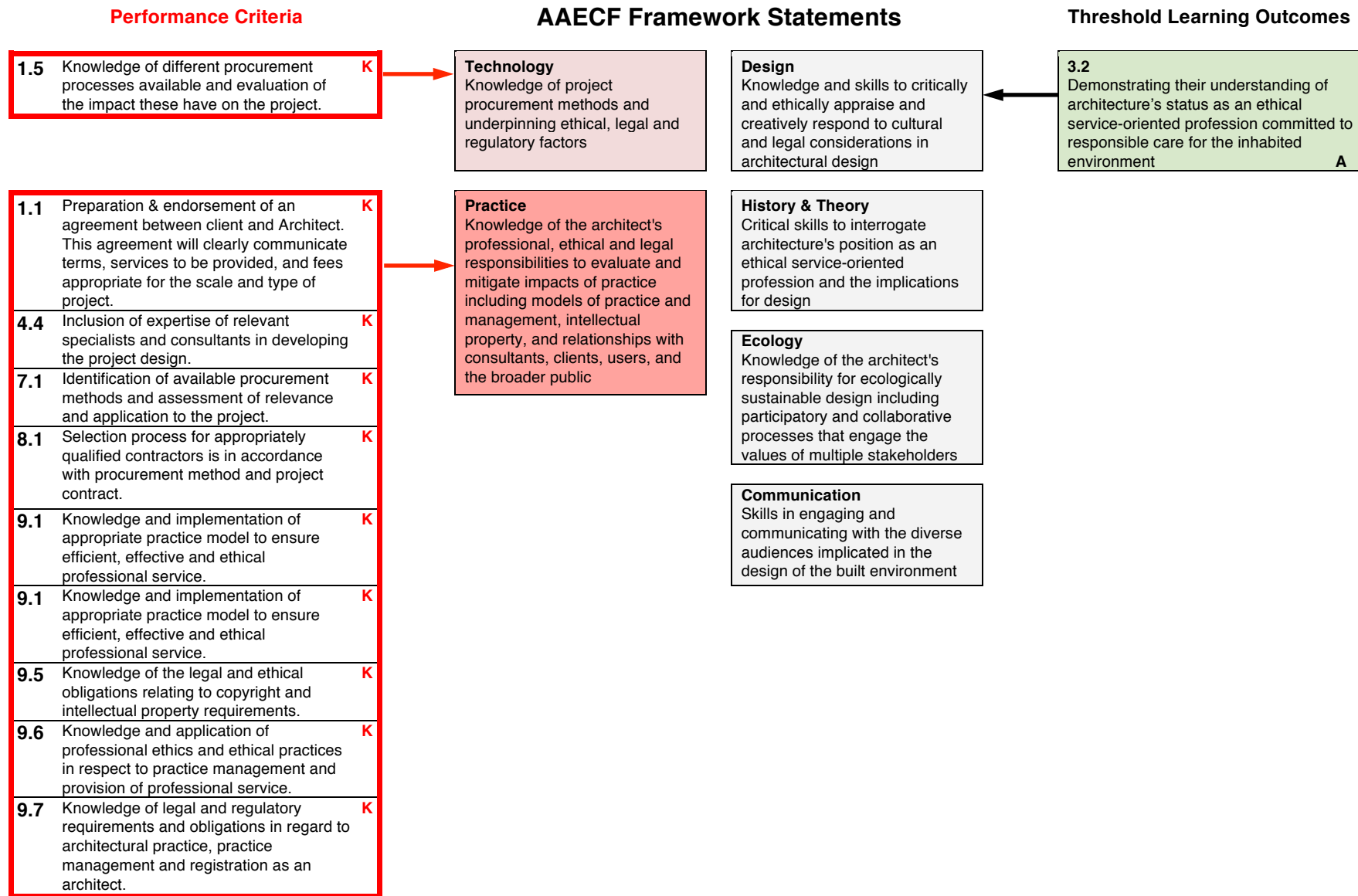


Figure 11

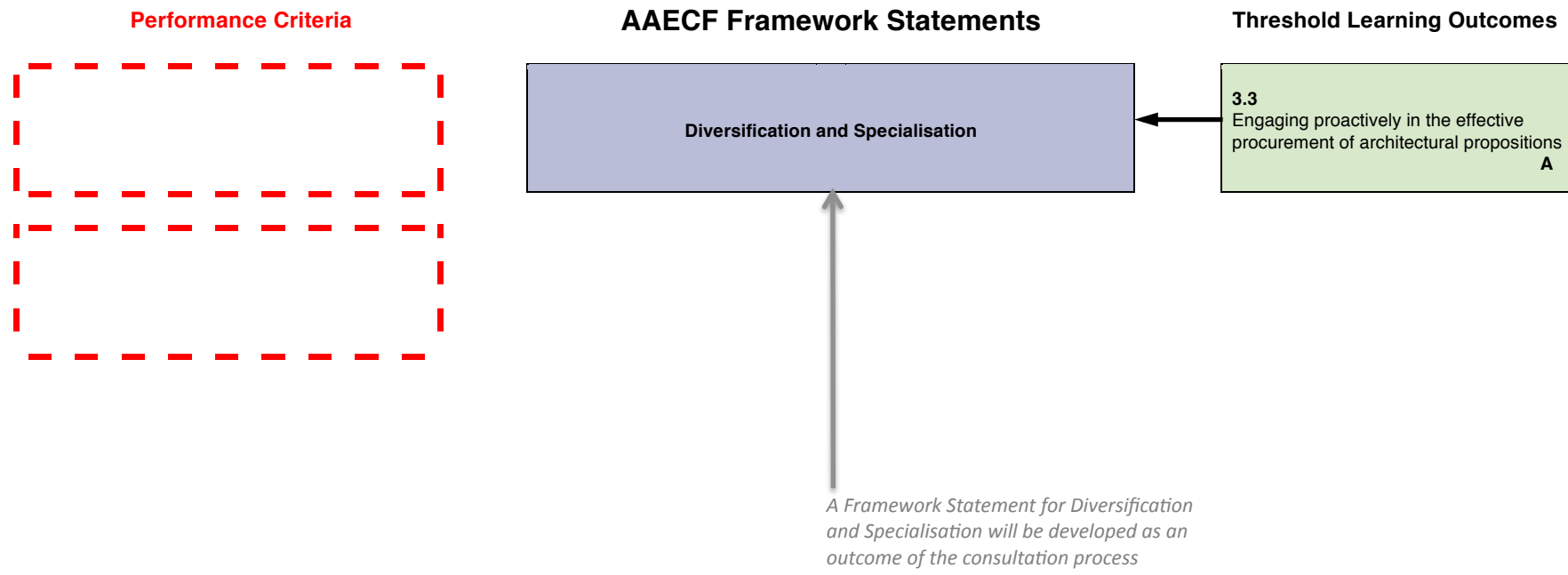


Figure 12