NCCA
An Chomhairle Náisiúnta Curaclaim agus Measúnachta
National Council for Curriculum and Assessment

Report on the Early Enactment Review of Phase 5 Junior Cycle Subject Specifications

Applied Technology, Engineering, Graphics, Wood Technology

June 2025

Contents

1. Introduction

In line with the Framework for Junior Cycle 2015 (FWJC15) the new subject specifications for Junior Cycle (JC) Applied Technology, Engineering, Graphics and Wood Technology were introduced in schools in September 2019. An early enactment review was scheduled to be undertaken by NCCA when the first cohort of students had completed the course for these subjects. Unfortunately, it was necessary to postpone the review until the 2024-25 school year due to the disruptions caused by the Covid-19 pandemic.

While the students and teachers who participated in this review had experienced the three years of the curriculum, they were not required to complete two CBAs, as envisaged by the specifications, due to the assessment adjustments introduced to take account of the disrupted learning experienced by students during the pandemic.

This early enactment review was completed in Q1 2025 to gather feedback and explore:

- how well the specifications get to the heart of the learning aspired to within the subject and more broadly within the Framework for Junior Cycle
- the assessment elements within the subjects, as experienced by students and teachers
- how teachers are exercising their professional judgement to mediate the new specifications in their schools and classrooms.

This report commences with background information that helps to contextualise the review and an overview of the consultation conducted as part of the review, followed by insights into experiences in enacting the junior cycle subjects. The feedback received during the review has been considered by NCCA in terms of potential implications arising for both the work of NCCA and other stakeholders in the implementation of the Framework for Junior Cycle. The final section of the document sets out proposed next steps to respond to the findings arising from this early enactment review.

2. Background information

This section provides a brief overview of the context for the review, noting the assessment adjustments introduced during the Covid-19 pandemic, relevant curriculum developments in senior cycle and the longitudinal research study on the implementation and impact of the Framework for Junior Cycle.

Adjustments to assessment arrangements introduced during the COVID-19 pandemic

The first cohort of students to study the Phase 5 JC specifications were due to complete their three years of study in June 2022. On April 2020 and as part of the national response to the COVID-19 pandemic, all Junior Cycle examinations were cancelled. Over the next three years, alternative assessment arrangements were put in place to take account of the disrupted learning experienced by students during the pandemic.

In the case of Applied Technology, Engineering, Graphics and Wood Technology, this meant that only one CBA was required to be completed. CBA2 was required for each subject, as the learning set out in that CBA was designed to inform students' engagement with the Final Project for the subject. The first state examination of the Phase 5 junior cycle subjects took place in June 2022.

In respect to the Final Projects, the following adjustments were also applied:

- In Applied Technology, students will be required to complete and present three specified headings only, of the six headings in the Design Folio.
- In Engineering, the 'Design Element' of the Coursework will not have to be completed and presented.
- In Graphics, the 'Sheet 3 – CAD Presentation' element of the Student Project will not have to be completed and presented.
- In Wood Technology, students will be required to complete and present two specified headings only of the six headings in the Design Folio.

In an announcement by the then Minister for Education on 17 April 2024, it was clarified that the assessment adjustments in place since 2022 in relation to the Classroom-Based Assessments will remain for students sitting Junior Cycle examinations in 2025 and 2026.

Relevant curriculum developments in senior cycle

Redeveloped subject specifications for the cognate Leaving Certificate technology suite of subjects will be introduced to the curriculum and in schools as part of the agreed schedule as follows:

- Construction Studies and Engineering as part of Tranche 2 of the redeveloped subjects to be introduced in 2026.
- Design and Communication Graphics (DCG) as part of Tranche 3 of the redeveloped subjects to be introduced in 2027,
- Technology as part of Tranche 4 of the redeveloped subjects to be introduced in 2028.

Ongoing research on the implementation and impact of the Framework for Junior Cycle 2015 (FWJC15)

A longitudinal study on the implementation and impact of the FWJC15 commenced in late 2020. The four-year study, based on a nationally representative sample, sought to capture the views of teachers, principals, students, parents and wider educational stakeholders on the FWJC15. As a longitudinal study, the experiences of schools was explored over a period of four years, in order to capture the complexity, challenges and successes in enacting the FWJC15. This mixed methods, multi-dimensional research was carried out by a team in the University of Limerick on behalf of NCCA. To date, four interim reports have been published and the final report is due to be published in 2025. The interim reports may be viewed here: Junior Cycle National Project | University of Limerick

The findings of this study in conjunction with the findings of the series of early enactment reviews of subjects and short courses will be of great assistance in supporting schools' ongoing work with the FWJC15 and in informing NCCA's work in revisiting and updating the Framework to support high quality teaching, learning and assessment. Furthermore, the study will also collect important subject specific information, which will be important to consider alongside the insights from this review when Phase 5 JC subjects are scheduled for redevelopment.

3. Overview of the review process

One of the key purposes of the review process is to consult with teachers, students and stakeholders on their experiences of enacting the curriculum. Consultation is a key aspect of NCCA's work, where advice is shaped by feedback from consultations with the public, schools, settings, education interests and others. The following section presents an overview of the areas explored and the methodological approach employed during this consultation which is underpinned by the principles set out in NCCA's Research Strategy (2023 – 2026) and provides a full summary of engagement during the consultation.

Areas explored during the review

The guiding areas and topics explored during the review are outlined in Table 1 below.

Area	Topics explored
Working with the specification	Achieving the aim of the specification Working with learning outcomes Planning for learning, teaching and assessment Using learning intentions and success criteria
Assessment	Assessment for the Classroom-Based Assessments (CBAs) Subject Learning and Assessment Review (SLAR) meetings Insights into the use of examples of student work Final assessment
Framework for Junior Cycle	Reporting on student achievement Transition to Senior Cycle Inclusion

Table 1: Areas and topics explored during the review

Methodological approach

This early enactment review was conducted from November 2024 to March 2025 in line with a format agreed by the Council and Board for Junior Cycle for similar early enactment reviews of the junior cycle subjects in Phase 1 and 2 (English, Science and Business), Phase 3 (Visual Art and Modern Foreign Languages), and Phase 4 (Geography, History, Home Economics, Mathematics and Music). Feedback was gathered in the following ways:

- school visits to capture the perspectives and experiences of teachers and students from 3rd to 6th year
- an online survey
- written submissions.

Parental consent and student assent were sought for school visit participants under the age of 18. Data gathered through the school visits and online survey were anonymised and transcribed, and all data from the consultation was stored as digital files in line with NCCA's Data Protection Policy (2020). The privacy of all participants has been maintained through anonymisation, except where

an organisation has given explicit permission to be identified as contributing to the consultation through written submissions.

A thematic approach was used for data analysis, framed by a set of guiding themes used throughout the review. This helped identify and analyse themes within the data gathered.

School visits

A sample of schools was selected to participate in the consultation, drawn from those schools that had previously responded to an open call for expressions of interest in taking part in NCCA consultation processes.

The breakdown of the selected schools is shown in Table 2 below. The school visits comprised two focus groups involving students from 3rd to 6th year, and relevant subject teacher(s). There were 6 school visits **for each pairing of subjects** in the review, with subjects paired as follows: Engineering and Wood Technology; and Graphics and Applied Technology.

Breakdown of school type	National statistics	Number of school types visited	Representative %
ETB	29%	2	17%
Voluntary Secondary School	50%	5	42%
Community/Comprehensive School	21%	5	42%
Small (1-350)	27%	1	8%
Medium (351-700)	41%	4	33%
Large (700+)	33%	7	58%
DEIS	32%	2	17%
Non-DEIS	68%	10	83%
All Male	13%	3	25%
All Female	17%	0	0%
Co-Educational	70%	9	75%

Table 2: Breakdown of national school statistics compared to schools selected and visited.

Online survey

A survey was used to gather feedback from anyone who wished to share their experience of a Phase 5 JC subject. This was shared online via www.ncca.ie, www.curriculumonline.ie, and across NCCA's social media platforms. Table 3 sets out the responses received for each subject.

Subject	Online submissions	Teachers	Students	Management

Applied Technology	5	11	57	24 (across all subjects)
Engineering	25	12	55	
Graphics	19	11	53	
Wood Technology	14	13	64	

Table 3: Overview of submissions received, and teachers/students/school leaders consulted

Written submissions

An open invitation for written submissions was made through www.ncca.ie, which was shared directly with our education partners. The following submissions were received for each subject:

- Applied Technology: Department of Education, State Examinations Commission, Oide, Engineering Technology Teachers' Association (ETTA), Techno Teachers Association Ireland.
- Engineering: Department of Education, State Examinations Commission, Oide, ETTA.
- Graphics: Department of Education, State Examinations Commission, Oide, ETTA. Techno Teachers Association Ireland.
- Wood Technology: Department of Education, State Examinations Commission, Oide, Techno Teachers Association Ireland.

4. Feedback from the review

This section presents an overview of the feedback received during the review. The guiding areas of discussion used throughout the review (Table 1), framed the analysis of the feedback received. The presentation that follows is based on consideration of the perspectives of students, teachers, school management and stakeholders across each subject, including feedback elicited from school visits, online responses and written submissions. As many aspects of junior cycle are experienced in an integrated way by students and teachers, some overlap across the areas of feedback will be evident below.

Achieving the Aims of the specifications

In discussions relating to the Aim of each specification, respondents also raised some broader issues that they considered relevant to the enactment or realisation of the Aim, which are included in the observations that follow.

Aim for the subject: Subject specific observations
Applied Technology
Consultation feedback generally affirmed that the experience of teachers and students is that Junior Cycle Applied Technology is supporting the development of such skills as creativity, collaboration, and independent thinking. In the school visits, teachers highlighted the subject's ability to engage a wide range of students through practical, solution-focused activities. Students noted that they enjoyed the freedom to explore open-ended design briefs and valued the opportunity to apply their learning to real-world contexts. The subject's design-led approach was noted by respondents as supportive of innovation, especially through the iterative nature of project work, which it was also noted encouraged resilience in students. While the Aim of the specification aligns well with what is perceived to be relevant and valuable learning, some teachers reported that in some schools, the full realisation of the Aim was somewhat constrained by inconsistent access to resources such as 3D printers, computer-aided design (CAD) software, laser cutters, and control systems despite the investment in funding in recent years. The need for more sustained and practical professional learning, especially in areas like microcontrollers and electronics, was mentioned as important in supporting the Aim. While several teachers commented favourably on the flexibility of the specification, some noted that the broad scope of the specification made it challenging to cover all required learning within the available time.
Engineering
In the school visits, teachers, students and school leaders agreed that the Junior Cycle Engineering specification supported the development of practical, technical and design-based skills. Students valued the subject's applied nature and the opportunity to design and manufacture functioning projects, while teachers noted that the specification fosters real-world problem solving and active engagement with materials, engineering equipment and basic electronics. There was strong support for the subject's ability to build student confidence and encourage persistence through an iterative approach. However, some respondents noted that the high level

of precision required in the final project could be difficult for some students to attain, while some teachers argued that there was limited opportunity for personalisation in the project, which it was considered restricted creativity.

Teachers also noted that while the overall structure supports the Aim of the subject, time constraints and pressure to complete the project often narrowed the range of learning experiences offered in third year. Greater flexibility in assessment, more inclusive project options, and improved alignment with Senior Cycle would support deeper realisation of the specification's Aim.

Graphics

Students and teachers in the schools visited agreed that the Junior Cycle Graphics specification was largely successful in developing key visual communication skills. The subject's emphasis on drawing, spatial reasoning and CAD was widely seen as engaging and relevant, especially when students had consistent access to appropriate resources. Many students described Graphics as enjoyable and rewarding, highlighting the sense of achievement they felt when completing drawing tasks and seeing their work come together on paper or screen.

While it was broadly considered that the Aim of the specification was being met in many respects, more targeted support for sketching and CAD integration was identified as necessary. In considering challenges to the realisation of the Aim, the Oide submission noted that helping students develop problem-solving abilities could be difficult, especially given the mathematical nature of some of the problems encountered in Graphics. It was noted that students needed critical thinking skills, resilience, creativity, and an in-depth knowledge of solid geometry to effectively solve these problems. This blend of higher-order skills was considered a demanding task for junior cycle students. The early enactment review also identified challenges with the initial timing and sequencing of geometry investigations, highlighting the need for a more integrated approach.

Wood Technology

Students, teachers and school leaders broadly agreed that the Junior Cycle Wood Technology specification supported engaging, student-centred learning. The subject was frequently described as practical, creative and rewarding, with the 70% project component identified as a major strength. This emphasis on project work was viewed as a motivating factor for students, encouraging autonomy, and providing meaningful opportunities for personal expression.

Teachers highlighted that the thrust of the specification had shifted the focus towards design thinking and reflective learning, helping students to develop problem-solving skills and enhancing their confidence. Several teachers pointed to the emphasis on design as a central feature of the specification. Some teachers observed approvingly that this emphasis required students to think creatively, to justify their decisions, and to reflect on the design process. However, some also felt that the increased focus on design reduced opportunities to develop in students the fine woodworking skills that were previously central to the subject.

Many students described the classroom environment as supportive of collaboration, which they described as enjoyable. Overall, there was a consensus that the Aim of the specification, including the aspiration to develop confident, creative, and technically skilled learners, was being realised in practice. However, the full realisation of the Aim was considered also to be dependent on adequate time, clarity, and resourcing.

Working with Learning Outcomes

Learning for students across all four subject specifications is set out in the form of learning outcomes which articulate the knowledge, understanding, skills and values which students should be able to demonstrate after three years of learning. Throughout the review, the nature of learning outcomes provided a focus for discussion, with the opportunities and challenges of working with learning outcomes being a point of comment across all four subjects.

Feedback indicates that a tension exists in relation to the nature of learning outcomes, in that those characteristics that are praised by some teachers are perceived by others to have less positive effects. This has been a common focus of feedback across all early enactment reviews of junior cycle subjects. Where some teachers see flexibility and openness as providing opportunity, others perceive the learning outcomes approach as lacking specificity and creating ambiguity.

Learning Outcomes: Subject specific observations

Applied Technology

Teachers and students agreed that the learning outcomes in Junior Cycle Applied Technology reflected the innovative and exploratory nature of the subject. The outcomes were valued for encouraging creativity, collaboration and problem solving, and were generally seen as flexible enough to support a range of project types and learner needs.

Some teachers felt that the breadth of some learning outcomes made it difficult to design appropriate learning experiences. Outcomes involving electronics, programming and environmental awareness were noted as challenging in schools with limited access to equipment. Teachers also noted that outcomes using verbs like 'synthesise', 'evaluate' or 'reflect' could be difficult to realise without appropriate scaffolding. The Oide submission noted that consideration should be given to extending teachers' awareness of how interrogating existing learning outcomes could accommodate more recent relevant developments relating to the subject. For example, Learning Outcome 3.7, relating to security and privacy of personal data, could encompass general internet safety, personal safety online and healthy engagement with technology, leading to a more cohesive and relevant learning experience. This broader focus would enable students to understand the interconnected nature of online security, and consider their overall digital wellbeing, fostering a more comprehensive approach to navigating the digital world safely and responsibly.

In practice, some teachers reported retrofitting practice relating to the previous syllabus to match outcomes, while others had developed integrated units of learning that mapped more naturally to the specification. There was a general call for additional examples of student work and professional learning to support planning, along with greater clarity and guidance to support engagement with certain learning outcomes.

Engineering

Consultation feedback indicated general satisfaction with the structure and intent of the learning outcomes in Junior Cycle Engineering. Teachers felt that the outcomes captured the general aims of the subject, combining practical skill development with opportunities for creative and critical engagement. Students appreciated the applied nature of the learning and often described the specification as helping them to understand how things work in the real world.

The Department of Education (DE) submission noted that, in the main, learning outcomes were understood and planned for by teachers in an effective manner. The DE observed that the outcomes in both Strand 1 and Strand 2, 'Processes and principles' and 'Design application', feature heavily in planning documents and the students' classroom experience. Some teachers noted that some learning outcomes were seen as overly broad or abstract, making them difficult to plan for and assess with confidence. Some teachers highlighted outcomes related to mechatronics, control systems and sustainability as challenging to realise, especially without access to relevant resources or specialist CPD. Some also expressed concern that outcomes aimed at deeper reflection or synthesis were difficult for some students to access.

While most teachers used learning outcomes as a guide for planning, some continued to retrofit learning outcomes to existing project models. Further guidance, particularly for complex or open-ended outcomes which relate to 'explore' or 'evaluate', was requested to support interpretation and implementation and ensure consistency.

Graphics

There was general agreement that the learning outcomes in Junior Cycle Graphics reflected the core learning needed for the subject, particularly in areas such as spatial reasoning, visual literacy and digital design. Students and teachers felt that the outcomes promoted structured learning and helped build foundational skills for progression to senior cycle DCG.

Concerns were raised by some teachers about the volume of learning outcomes and the level of ambiguity in some areas. Outcomes involving sketching, integration of CAD and board drawing, or applying design principles across contexts were seen as difficult to interpret, especially without specific examples of what success looks like. Teachers noted that some students struggled to connect learning across strands, with some students particularly challenged by technical vocabulary.

While the outcomes were generally seen as enabling and inclusive, clearer guidance on the intended learning envisaged in some outcomes was widely requested. Teachers sought support in aligning learning outcomes with practical class time and available software tools. It was noted that developing and deepening students' understanding of geometric principles, shapes, constructions, properties, and spatial reasoning presented a significant challenge and was suggested as an area that warranted further attention.

Wood Technology

There was broad agreement among teachers and students that the learning outcomes in Junior Cycle Wood Technology reflected relevant and valuable learning. The outcomes were seen as supporting a practical and student-centred approach, with a clear emphasis on design, problem solving and reflective thinking. The DE submission noted that the learning outcomes were appropriate and being interrogated well, with an appropriate balance of theory and practical learning set out, and further noted that feedback from students and teachers elicited in subject inspections was positive.

Some teachers consulted in the review noted that the number of learning outcomes could be considered excessive given the time available. Outcomes related to sustainability and digital technologies were identified as vague or difficult to integrate. Some teachers also reported

uncertainty around the nature of learning required for certain outcomes, particularly where action verbs such as 'explore' or 'investigate' were perceived to lack clear parameters (for example, LO 3:11, whereby students should be able to *investigate the journey of wood from forest to end use*). The action verb 'evolve' contained in Learning Outcome 2.9, where students should be able to *evolve their solutions based on critical reflection, was perceived as particularly open ended by some.*

The integration of theory with practical work as set out across the suite of learning outcomes was noted as a positive feature of the specification by many teachers, though it was noted that not all schools had achieved full alignment. Teachers expressed a desire for further support materials and exemplars to clarify expectations and support planning and assessment.

Planning for Learning, Teaching, Assessment and Reporting

Planning for learning, teaching, assessment and reporting: Subject specific observations

Applied Technology

Applied Technology teachers described their classrooms as highly dynamic and student-driven, with teaching approaches built around iterative design, experimentation, and hands-on learning. The specification was praised for allowing flexibility and real-world relevance, though it was noted that this also made longer-term planning more complex.

Teaching practices varied depending on the school context. In some schools, it was noted that students engaged with electronics, control systems and coding through integrated projects. In other settings, access to specialist classroom constraints were seen as limiting teaching to more basic design and make activities. Teachers adapted by using problem-solving tasks that emphasised creativity and group work.

Student voice and autonomy were recurring themes, with many students reported to be deeply engaged in their projects and motivated by the freedom to make design choices. Teachers noted that engaging in reflective thinking and documenting the design process were challenging for students. Opportunities for team teaching or collaboration were welcomed by some teachers in the review, but it was noted that these opportunities were restricted due to staffing and timetable constraints.

The DE submission observed that when it was working well, planning was done collaboratively, and was based on a plan that was invoked as a dynamic, working document, as opposed to one which was updated on an annual basis and seen as a static document. The DE noted approvingly that many schools were using the JCT A3 planning template which provided structured support and allowed teachers to develop units of learning that had a key focus on the student.

Engineering

Planning for teaching and learning in Engineering was described as strongly centred around the final project, with many teachers using this as the focal point for developing practical and theoretical skills. While this approach was seen as appropriate, some teachers acknowledged that it narrowed the focus of teaching in third year and limited opportunities for broader conceptual exploration.

It was reported that teaching approaches varied significantly depending on teacher experience and resourcing. In some schools, it was reported that learning was scaffolded through well-structured units that blended theory with practical work; in others, learning outcomes were retrofitted to familiar tasks. Teachers often relied on informal methods of assessment and feedback, particularly through observation and questioning during practical work.

Differentiation was generally addressed through support during practical tasks and peer collaboration, but there was less evidence of targeted planning for students with additional learning needs. Teachers identified the need for more planning support around emerging areas such as mechatronics and electronics, especially for integrating them meaningfully into day-to-day teaching.

Graphics

Teachers reported that teaching and learning in Graphics had shifted to include a stronger balance between manual and digital skills. The integration of CAD was welcomed, particularly for student motivation, but resourcing constraints continued to shape the quality and consistency of learning experiences across schools. In some cases, teachers focused more on board drawing, and only introduced CAD late in the cycle of teaching a class group due to access limitations.

The review found that approaches to the teaching of Graphics were often topic-based, using textbooks or software tutorials as planning tools. However, where units of learning had been developed, they were reported to support more cohesive and responsive teaching. It was reported that sketching and spatial reasoning remained challenging for many students, and some teachers noted difficulty in building confidence in freehand sketching. A perspective was shared by some respondents that stimuli for tasks should be viewed through the lens of the Graphics specification and engaged with in an integrated manner. It was noted that this approach would help foster the development and deepening of student understanding.

Collaborative learning and peer support were viewed as strengths in the Graphics classroom, particularly during CAD activities. Teachers noted that students often engaged more actively when given freedom to explore design tasks. Where planning decisions were being influenced by what teachers perceived to be required for the final examination, some teachers reported that this reduced the focus on teaching for skill development.

Teachers reported that the specification supported the development of accuracy, problem solving and critical thinking. However, some expressed concern that the perceived breadth of learning outcomes and lack of specificity in some wording could make planning difficult, particularly in balancing board drawing with CAD.

Wood Technology

Teachers described a growing confidence in using the specification to guide their teaching, with many reporting that planning was incorporating more student-led and design-focused activities than in the past. The shift towards integrating theory into practical work was viewed positively, and many teachers saw value in units of learning that allow for flexibility and responsiveness to students' needs. Teachers noted that many students willingly devote hours after school to complete project work. They also noted that the craft aspect continues to be a source of pride and motivation for students.

Teachers reported that student engagement was generally high, especially when they were given ownership over design tasks. Differentiation was managed through task design, peer learning, and flexible grouping, though teachers noted this could be difficult in larger classes. Collaborative planning between teachers was described as helpful but time-limited, with some schools using Subject Learning and Assessment Review (SLAR) meetings or shared drives to coordinate approaches. It was noted by many respondents and stakeholders that the SLAR process was challenging for single teacher schools, although the value of the SLAR model was noted.

Some teachers expressed concern about the limited time available to engage with the full breadth of the specification, particularly when timetabling constraints reduced access to specialist rooms. While the integration of broader themes such as sustainability and digital literacy was welcomed, it was suggested that these were often difficult to address consistently due to time and resource limitations. Teachers noted that further guidance to clarify the required learning in these areas would support more consistent enactment.

Assessment

This section of the report considers feedback elicited from respondents in relation to assessment. It considers assessment in relation to three aspects:

- Ongoing Assessment
- Classroom-Based Assessments
- Final examination arrangements.

These aspects are informed by the dual approach to assessment in junior cycle, designed to support student learning over the three years of junior cycle and to measure achievement at the end of those three years. This dual approach is intended to reduce the focus on the final examination and to increase the prominence given to Classroom-Based Assessments (CBA) and formative assessment. This change of emphasis arises from an acknowledgement that students learn best when teachers provide feedback that helps students to understand how their learning can be improved as outlined in the Framework for Junior Cycle 2015.

In the revised arrangements implemented due to Covid-19, school management, in consultation with relevant teachers, have had autonomy to decide whether to complete one or two CBAs in each subject. These decisions were taken in light of the factors arising from the Covid-19 pandemic and their impacts on students and schools, which vary from school to school and in respect of which schools themselves are best positioned to decide.

It is important to note that while schools can choose either CBA1 or CBA2 in many subjects, students must complete CBA2 in each of the four Technology subjects, as CBA2 is linked to the final project assessment component. The project is worth 70% of the overall grade for the subject Applied Technology, Engineering and Wood Technology, with the remaining 30% relating to the final written examination. In Graphics, these weightings are reversed (30% for the project, 70% for the final exam). It is further noted that the CBA2 window for each of the four Technology subjects is 4 weeks in September of third year.

Certain issues were raised in relation to the final examination arrangements which were common across all for subjects. It is proposed to summarise these here, rather than treat them in each of the subject specific sections below.

Assessment Guidelines

The Assessment Guidelines for each subject were generally viewed as supportive of planning for assessment and ensuring that all relevant aspects were covered. They helped structure the tasks and set clear expectations for students, ensuring alignment with the learning outcomes. It was suggested that there could be more specific guidance on how to support students through the research and analysis process, particularly when it comes to analysing data and presenting it effectively. The Features of Quality for CBAs were raised, with some respondents suggesting that they could be revisited. It was suggested that terms such as "in line with expectations" did not offer useful feedback for students or parents, particularly in understanding the skills developed through practical subjects.

Examples of student work

Examples of student work for CBA1 and CBA2 were seen as helpful supports by teachers. It was noted that these examples have aided teachers to be more confident in their own judgements when awarding descriptors of the levels of achievement to student work. Teachers expressed their desire to see more variety in the mediums of communication used in the examples. It was noted that examples of student work for everyday classroom tasks would also be useful to inform best practice when aligning learning outcomes, learning intentions, classroom tasks, success criteria and appropriate feedback.

Classroom-Based Assessments

There were varied teacher views on CBAs. In general, most teachers were positive about their experience of the CBA process, noting that students enjoyed the opportunity to apply their learning to real-life contexts in CBA1. The timing of the CBA2 presented challenges for some teachers, especially in the context of practical examinations. They considered that CBA completion and assessment, prior to the practical project, was reducing and removing focus from the practical performance at a critical time for students. While it was acknowledged that there was value in students engaging with CBA2, it was observed that students were engaged with assessment components for a significant proportion of 3rd year (25 school weeks approximately - CBA2 for 3 weeks & the coursework project for 22 weeks). This was perceived as a large workload for students in 3rd year, bearing in mind that students had to submit a reflection and self-evaluation output as part of their final coursework project assessment. It was further suggested that consideration should be given to the fact that coursework outputs, that were initially intended for submission as part of the final coursework assessment, are not being assessed currently and may add to the workload for students if reintroduced when the current revised assessment arrangements expire.

Students generally reported that they enjoyed the experience of CBAs, particularly when they had the opportunity to apply their learning to real-life contexts. However, some students referred to the scheduling of CBAs in their school as a cause of stress, due to the reality of having to deal with multiple CBAs across different subjects at the same time.

For some students, CBAs felt like a distinct and separate task to ongoing learning in the classroom. As a result, CBAs were viewed by some as unnecessary or a distraction from learning rather than an integral part of it. There was a view across subjects that the requirement to complete one CBA rather than two, introduced as part of a suite of measures to support students

whose class contact time was reduced to the pandemic, should be retained. It was noted that parents were often unaware of how CBAs were assessed, and the broad language used in the descriptors did little to support meaningful reflection or communication.

The written examination

The written examination is worth 30% of the overall grade for each of the Technology subjects, except for Graphics, which is worth 70%. In that context, its status is not perceived to be as significant as the final examination in other subjects in junior cycle. The examination did not appear to be highly valued by students, and was generally considered accessible but of low motivational value due to its 30% weighting in Applied Technology, Engineering and Wood Technology. Some teachers questioned whether the exam paper provided enough challenge or choice to suit the full range of learners. Issues around the common level status of the paper, the lack of choice in questions, the lack of clarity around allocated marks and the lack of indicative time for students to spend on questions were raised in commentary. However, the examination across each of the subjects was generally considered accessible and fair.

Teachers reported some frustration about inconsistencies in the language of assessment, particularly in the terminology used in Features of Quality for CBAs, and that used by the SEC in reporting on student achievement in formal assessments. They expressed the view that there was potential for confusion in this context, and that descriptors of student achievement should be more coherent and aligned across the two sets of assessment experiences.

The Junior Cycle Profile of Achievement (JCPA) was rarely discussed by students and received little emphasis from teachers. As in other subjects, its delayed release and perceived vague language were identified as key issues affecting its status. Respondents suggested that if reporting is to support learning and motivation, it must be more immediate, descriptive, and better aligned with the actual learning experiences in practical subjects.

Grading bands

A key issue across feedback from respondents was the issue of grading bands. It was evident that both teachers and students across all subjects were dissatisfied with the perceived width of the grading bands, particularly in relation to the Merit and Higher Merit grade bands and the lack of clarity this width provided in relation to identifying individual student achievement. Some teachers expressed concern at the low number of Distinctions awarded to their students in the final result which was, in part, attributed to the lack of predictability in the structure of the examination, but also led teachers to question the level required to achieve Distinction at junior cycle when compared with the Junior Certificate. It is noted that on 22 April 2025, Minister McEntee announced changes to Junior Cycle grade bands. It was announced that there will be the same number of grade bands as before with the top four grade descriptors (Distinction, Higher Merit, Merit, and Achieved) being evenly distributed in bands of fifteen percentage points.

Assessment: Subject specific observations
Applied Technology
Assessment practice in Applied Technology was reported to be highly practical in nature, and ongoing, formative assessment was cited by teachers as common practice. Teachers reported using

questioning, observation, and informal checks during design and project work to guide student learning. End-of-topic quizzes and check-ins with students for understanding were also noted as common interventions but were viewed by teachers as less important indicators of student progress than ongoing monitoring of student performance in class. The final project was seen as the most meaningful assessment of student learning.

CBA1 was generally viewed positively by teachers. Many teachers liked how it encouraged students to think critically as they explored the application of controlled systems in a local context. Students said they found it engaging and liked that they were able to apply their technical knowledge in an investigative context. Students reported that they liked the fact that the learning log could be produced in any format such as written format, digital format, visual form and audio form and that this helped them to develop a wide range of communication skills.

CBA2 was the subject of more varied feedback. Some teachers said that it overlapped with the project portfolio and that students often found it difficult to articulate their reflections. In some cases, it was given less attention because teachers were short on time or considered that it was not hugely important, given that it happened in such close proximity to the project. The Oide submission noted that there was a need for students to be supported to move beyond surface level reflections. Both the DE and SEC submissions questioned whether two CBAs were necessary, while several teachers in the online survey queried the appropriateness of two CBAs in a subject that was so practical in nature.

The State Examinations Commission (SEC) information note was noted by respondents as instrumental in helping teachers plan and review key areas, and ensuring students were well-prepared for the final written assessment. However, some teachers noted challenges with the breadth of some questions, with an example cited being those previously asked on maglev trains, which may not have been covered specifically in class. This highlighted the need for students to have a broad understanding of various technological concepts.

Engineering

In Engineering, classroom assessment was closely tied to project development, with informal teacher feedback seen to play a key role in supporting student progression. Written tests and past examination papers were identified as commonly used in third year, whereas formative assessment strategies such as facilitated peer discussions, questioning, and observation were more common in first and second year.

CBA1 was valued by teachers for supporting independent learning and digital skills. Students enjoyed researching topics of personal relevance, and teachers considered that the CBA provided a more accessible route into engineering concepts than traditional assessment. CBA2 received mixed feedback. While some teachers found it beneficial for encouraging reflection, others thought it placed too much emphasis on written work and thought it was disconnected from the practical nature of the subject. Some feedback suggested that its timing relative to the project added to the pressure, particularly for students who needed more support.

The final project was considered an authentic assessment of skills, but concerns were raised about the level of prescription in the brief and the difficulty of achieving high marks. Teachers generally considered that the final written examination was fair.

Graphics

Teachers in Graphics reported a continued reliance on tests and textbook-based questions for assessment, particularly in third year. Project-based tasks and digital portfolios were used in some schools to support formative assessment, though time and access to technology often influenced this practice.

CBA1 was generally well regarded and noted for its promotion of creativity and sketching skills. Students reported that they liked having the freedom to design and present their own ideas, and teachers noted improvements in students' visual communication and planning skills as a result. CBA2 received generally less positive feedback. Teachers reported that some students struggled to reflect meaningfully on their learning. The documentation aspect of the task was identified by some teachers as particularly demanding for some students, and teachers expressed a need for clearer expectations and more differentiated examples. The DE submission noted that the very similar focus between CBA2 and the project could be demotivating for students. It was suggested that some students could be disinclined to complete their project to a similar standard as their CBA due to a sense of repetitiveness. It was suggested that CBA 2 should be scheduled earlier in the term and should have a theme dissimilar to the project.

The project for Graphics has three outputs (Output 1: Responding to a theme informed by the work of Classroom-Based Assessment; 2 Output 2: Dimensioned drawings; Output 3: Three-dimensional computer-aided design modelling). The DE submission noted that, while students have produced great work for Outputs 1 and 2, the assessment adjustments have not required students to complete an Output 3 to date. This means that some students are not experiencing the full range of outcomes, which could have a negative impact on student learning.

The written exam for Graphics is worth 70%, and the project 30%. This differs from the other three subjects, where the weighting for the components is reversed. The written exam was therefore seen by respondents as more valued than in other subjects.

Wood Technology

Teachers noted that assessment in Wood Technology remained largely focused on practical tasks and project work. End-of-topic tests and occasional written assessments were also used, particularly in third year. While formative assessment was a routine part of teaching, especially during practical work, written feedback was less consistent.

CBA1 (Wood Science in our Environment) was broadly well received, with both students and teachers valuing its flexibility and opportunity for creative exploration. Students appreciated being able to choose their topics and said it helped develop confidence in research and presentation. Teachers found it an accessible and engaging way to assess learning. Feedback on CBA2 was more varied. Some teachers said that it felt disconnected from the rest of the course and overlapped in purpose too much with the final project. Its timing was problematic, and students often viewed it as an extra task rather than a meaningful learning opportunity. There was a commonly expressed view across many respondents and stakeholders that one CBA was enough in Wood Technology as the practical was worth 70%, with most respondents who expressed a view on this issue suggesting that CBA1 would be a better option to retain.

The DE submission noted that the project aspect of the assessment was working very well and the new specification has encouraged students to expand the types of craft skills they engage in, such as wood turning, marquetry and carving. The specification also has a greater emphasis on design

which makes the outputs very student-centred. It was noted that the number of students studying Wood Technology had increased since the new specification was introduced.

It was noted that there was an emphasis placed on assessing students' use of graphical communication and sketching skills throughout each question in the written assessment. Sketching is a valued communication skill in the subject, and whilst teachers have suggested there has been a general improvement in this skillset amongst students, it continues to be an area for further development for most students. Some teachers expressed concern that working drawings were not given enough importance in classroom practice when students communicated their design details. This issue was seen to have been informed by current assessment arrangements, where the 'Detail' part of the course is not being assessed due to revised assessment arrangements currently in place.

Framework for Junior Cycle, Inclusion and Transition to Senior Cycle

Reporting on student achievement

Reporting on student achievement: Subject specific observations

Applied Technology

Teachers in Applied Technology described feedback as embedded in classroom practice. Ongoing, verbal feedback was used to guide students through each stage of the project process, helping them refine designs, troubleshoot issues, and reflect on their work. Students valued this immediate and practical guidance, which they felt helped them learn more effectively than written feedback alone.

Formal reporting generally focused on grades from classroom tests or project development. Teachers noted that while these assessments were important, they often missed capturing elements like creativity, resilience, and problem-solving. Reporting structures rarely included detailed commentary on how students applied the design process or interacted with technology meaningfully.

Engineering

Teachers reported that feedback in Engineering was typically embedded in ongoing project work and delivered informally during lessons. This approach allowed students to adjust and improve their work through regular teacher guidance. Students responded positively to this feedback model and noted that it helped them stay on track with their projects.

Formal reporting practices tended to prioritise grades from written tests. While these were seen as useful indicators of progress, teachers felt that reports often failed to reflect broader competencies such as problem-solving or design thinking. Only a few schools reported that they integrate comments linked to the key skills or practical achievements outlined in the specification when reporting on student achievement.

Graphics

In Graphics, reporting practices varied widely between schools. Some teachers shared detailed feedback on student designs, CAD work, and drawing skills, while others focused more heavily on

test scores and grades. Students reported that they received helpful feedback in class but were often unsure how their day-to-day learning connected to formal reporting.

Many teachers noted that communicating progress in spatial reasoning or design thinking was difficult through standard reporting formats used by schools. While some used digital platforms to track performance, the majority continued to report using short written comments and numerical results. Some teachers, and stakeholders, acknowledged the desirability of a broader approach that would allow reporting on creativity and technical development more explicitly.

Wood Technology

Teachers described feedback in Wood Technology as regular and highly individualised during practical work. Verbal feedback was commonly used to support students in real time, particularly as they progressed through project stages. This formative approach was valued by students, who reported feeling well supported and encouraged in class.

Formal reporting practices were reported as more traditional in nature. Many schools relied on end-of-term percentage grades and brief comments in written reports. While some teachers noted efforts to include qualitative feedback linked to practical skills and creativity, most agreed that reporting structures did not fully capture the range of learning in the subject.

Inclusion

It was noted across all subjects that assessment of ongoing learning and of CBAs allowed for more inclusive assessment methods. It was noted that students with specific physical or learning difficulties should have accommodations in place during their learning and during CBA assessments, and that these supports would reduce or mitigate the effects of their disability to ensure that these students could participate as much as possible.

It was noted by teachers that they are satisfied that students following Level 2 Learning Programmes (L2LPs) in their junior cycle classrooms are generally capable of completing certain tasks that can contribute to assessment of learning in these programmes.

The growth in numbers of students for whom English is an additional language was noted in the review, with teachers reporting that adopting and adapting assistive digital technologies to support the accessibility of learning and teaching for EAL students was helpful.

It should be noted that a common feature of feedback elicited in the school-based section of the review was the emphasis on positive student-teacher relationships which students highlighted, noting that these relationships enhanced students' experience of learning. Students also noted that they generally preferred integrated learning of theory and practice, rather than separate theory-focused or practice-focused lessons, considering that that the integrated experience made for a more effective and inclusive learning experience.

Subject specific observations

Applied Technology

Teachers identified certain aspects of the Applied Technology specification as supportive of inclusion citing, for instance, the subject's flexibility, its open-ended problem-solving approach, and project-based learning approach. It was suggested that these features allowed students with diverse strengths to engage meaningfully. Students said that they appreciated the practical, collaborative environment offered by the subject experience, and the sense of ownership over their work.

Nevertheless, it was suggested that inclusion was still constrained by access to materials, devices, and learning support. Teachers reported that some students required support with writing or abstract thinking in terms of engaging with CBAs and the project portfolio. There was also concern that students with limited digital skills or home support could be disadvantaged in completing research or reflective elements. Teachers called for more examples of student work and planning support to help scaffold learning for students with SEN.

Engineering

Engineering was viewed as broadly inclusive, particularly due to its hands-on focus. Teachers said the subject offered opportunities for problem-solving and practical thinking. However, some concerns were raised around literacy demands in the reflective and documentation elements of CBAs.

Teachers highlighted the challenge of managing a wide range of abilities in common-level classes, particularly during third-year project work. There was limited evidence of specific adaptations for students with additional learning needs, and teachers suggested that more guidance on differentiation would be welcome.

Issues of gender balance and subject accessibility were frequently raised. Students reported that Engineering classes were still male dominated in many schools, and subject choice structures at Junior Cycle often limited uptake by female students. Lack of female role models was highlighted as a challenge that needed to be addressed.

Graphics

Inclusion in Graphics varied across schools. While the subject's visual and structured format appealed to many students, teachers reported that some students often found aspects of spatial reasoning, technical language, and CAD software challenging. Some schools offered additional support in first year or taster programmes, which helped students gain early confidence.

However, issues of gender balance and subject accessibility were frequently raised. Students reported that Graphics classes were still male dominated in many schools, and subject choice structures at Junior Cycle often limited uptake by female students. Teachers noted that inclusive teaching approaches, such as integrated sketching, CAD and project work were important, but difficult to sustain without adequate resourcing.

Wood Technology

Teachers viewed Wood Technology as an inclusive subject that allowed students of different ability levels to experience success. It was stated that the practical and visual nature of the subject supported learners who may struggle with more text-heavy subjects.

However, teachers noted that the standard of the project work and the open-ended nature of some CBAs could disadvantage students with additional needs, especially when limited support or reduced timetable hours were available. Teachers expressed a need for more planning time and supports to address this.

Supporting the transition to senior cycle

Subject specific observations

Applied Technology

Learning in Junior Cycle Applied Technology was noted by respondents as providing a strong foundation for students transitioning to senior cycle subjects, particularly Leaving Certificate Technology. The knowledge, skills, understanding and values developed at Junior Cycle were said to align closely with the expectations and aims of the senior cycle subject. It was noted that students gained experience using tools, machinery, and materials such as acrylic, aluminium, and wood in Applied Technology. These skills were seen to directly transfer to senior cycle, where they are applied at a more advanced level.

It was further observed by respondents that the broad nature of some of the design briefs at junior cycle helped to prepare students for the thematic brief in 6th year. This continuity helped students refine their ability to manage the full design process, from concept to final realisation, preparing them for more open-ended and complex tasks.

Some teachers emphasised the importance of promoting and strengthening links between the subject and opportunities for future study or career pathways, suggesting that clearer connections could enhance the subject's relevance and long-term impact.

Engineering

Junior Cycle Engineering relates directly to the subject Engineering in senior cycle. Interestingly, the DE submission noted that the newly redeveloped draft Engineering specification, due to be introduced to schools in 2026, is even more closely aligned with the junior cycle specification. The submission echoed general feedback which noted that the engineering mindset is nurtured and developed in junior cycle and the autonomy provided by the syllabus at Leaving Certificate level allows for further growth and self-assessed development.

Graphics

Junior Cycle Graphics relates directly to the subject Design and Communication Graphics (DCG) in senior cycle. The potential of Graphics to contribute to progression to senior cycle was acknowledged by respondents. It was noted that engaging with geometry and problem solving prepared students to access DCG at an appropriate level. In this context, the DCG assignment was cited in one submission, which noted that the skills developed in junior cycle proved invaluable to students engaged with the assignment. The introduction of freehand sketching and CAD in Junior

Cycle Graphics from 1st Year was noted as commendable, and supportive of students entering senior cycle. However, some teachers did highlight that progression from Junior Cycle Graphics to Leaving Certificate Design and Communication Graphics did require students to have the ability to work independently on more advanced design tasks.

Wood Technology

The review found that respondents generally considered that students would have developed a range of manipulative woodcraft skills to equip them for, and continue to progress in, Leaving Certificate Construction Studies[1]. It was noted that as well as developing disciplinary skills, knowledge, understanding and values, students develop transversal skills, such as creativity, innovation, critical thinking and problem solving, which are skills that are necessary at senior cycle.

The DE submission observed that due to the fact that the subject was very popular, there was pressure on school facilities, whereby many schools did not have enough practical classrooms to cater for all students. This has resulted in some lessons being taught in general classrooms. The submission noted that this was not ideal because theory had to be taught in isolation whereas the concurrent approach of the theory and practical being integrated was the preferred option to maximise learning, and support progression, an approach that many students also said they valued and enjoyed.

[1] Construction Studies is part of Tranche 2 in the schedule of senior cycle subjects for redevelopment. The subject is due to be renamed Construction Technology.

5. Insights, recommendations and next steps

NCCA would like to acknowledge and thank the teachers, students and other stakeholders who contributed to this review. Their feedback was very insightful into how the Phase 5 subject specifications have been enacted and experienced.

This section of the report considers the feedback from the review to identify key insights and recommendations. In doing so, it is important to acknowledge that curriculum change is a complex process that takes time to achieve and neither teachers nor a single cohort of students experienced the curriculum and assessment arrangements as intended due to the disruption caused by the Covid-19 pandemic. Furthermore, it is important to acknowledge the extraordinary effort made by teachers of the Phase 5 subjects to support engagement with new curriculum arrangements in very challenging circumstances.

Insights

The following insights are drawn from consideration of the various issues raised in the course of this report. They seek to synthesise the overarching findings and are intended to inform recommendations that follow. These insights are categorised in relation to the Framework, firstly; and then in relation to the four Phase 5 Technology suite of subjects.

Feedback related to the Framework for Junior Cycle

- It is evident that collaborative planning has become more embedded in the culture of schools, with the SLAR process a significant driver of this developing culture. Teachers generally welcome the SLAR process as a valuable opportunity for professional conversations with colleagues.
- Formative assessment practices are evident in classroom practice.
- There is a view that the lack of marks for the CBA in term of overall final assessment is impacting on the status given to CBAs and the perception of CBAs held by students and parents.
- The experience of the final assessment varies somewhat across the subjects explored in this review. It is evident that there is some frustration around the perceived excessive difficulty in students attaining Distinctions. There remain some concerns about the Common Level. There are calls for greater transparency in the designation of marks for questions on the examination paper.

Feedback related to the enactment of Applied Technology, Engineering, Graphics and Wood Technology

- There is a consensus across all four technology subjects that the Aim set out for each subject is apt and encapsulates the desired learning for students at the age and stage of learning. Moreover, there is a view that the aim is being realised generally in the implementation of the specifications.
- The specification design in terms of strands and learning outcomes is viewed as appropriate across all four subjects, with a general consensus that the essential learning for each subject is captured within the outcomes set out.

- Teachers generally view their professional learning experience positively, and welcome such opportunities, and note also the support of subject teacher associations.
- There remains a need for new and varied examples of student work to be developed to continue to support teacher professional judgements and assessment knowledge.
- The experience of Classroom Based Assessments is generally viewed as positive, with students pointing in particular to the opportunities provided for pursuit of areas of personal interest and fulfilment. However, it is equally noted that the experience of CBA1 in each subject is reported on more positively than CBA2, with the timing of the latter, and its similar focus to the final project, eliciting some negative feedback, and leading to some suggestions that one CBA is sufficient.
- The weighting of 30% for the final examination, as against 70% for the project component, informs some perspectives on the examination, which is deemed by some students to be of less significance than in other subjects where the weighting is far greater. (This does not apply to Graphics, where the weightings for the assessment components are reversed.)
- Tensions still exist in relation to what is perceived as excessive vagueness or lack of clarity in relation to some learning outcomes across the subjects, with teachers seeking more guidance or specificity in some instances, particularly in the context of preparing students for the final examination.
- Teachers are concerned about disparities in school resourcing and the need for access to appropriate tools and resources is highlighted across the review.
- The issue of gender imbalance in terms of the student cohort choosing some technology subjects was raised in the review. The need to consider how to encourage greater uptake of the subjects by female students was identified as a key priority.

Recommendations

It is evident from the feedback to the review that many of the issues raised extend beyond the domain of the subject specific and relate more broadly to implementation of the Framework for Junior Cycle. This was also evident in previous early enactment subject reviews, most recently in the Phase 3 and Phase 4 reviews. While the remit of the review does not include proposing actions relating to the implementation of the Framework, the following identifies the most pertinent of these issues.

Issues relating to the Implementation of the Framework for Junior Cycle

Some actions relating to the broader implementation of the Framework for Junior Cycle may be taken through focused engagement with relevant stakeholders and partners, informed by feedback elicited in the review, and following on similar feedback elicited in previous early enactment reviews conducted by NCCA. The following four areas for actions are identified.

Professional time and planning, timetabling and resources

Professional time for teachers was introduced to support schools in their enactment of the Framework for Junior Cycle. This time is valued by teachers and school management. More time and guidance for planning, timetabling and access to appropriate planning resources would be welcomed by all teachers and school management.

Assessment and Reporting

The broader approach to assessment in junior cycle, although generally welcomed by teachers, still has challenges in terms of enactment. The shift to Common Level examination papers has been challenging for teachers. More guidance and support in this context would be appreciated. It is acknowledged that concerns raised around the nature of the grading system and grade bands in the current assessment of junior cycle subjects have been addressed by the Minister in her recent announcement. Feedback on the Junior Cycle Profile of Achievement suggests that there is still a need for more urgency around the earlier issuing of the JCPA, and for more communication to explain its relevance to students and parents.

CBAs and SLAR Meetings

The role and importance of CBAs in the context of the dual assessment approach needs to be highlighted for students and parents. Support and guidance for the ongoing facilitation of SLAR meetings would also be appreciated, especially for one teacher subject departments that exist in some schools for Technology subjects.

Exploring the introduction of the Framework for Junior Cycle: A longitudinal study

The dissemination of findings, and the formulation of actions to support the recommendations that ensue from the UL longitudinal study on the implementation of the Framework for Junior Cycle in schools, should be communicated to teachers, students and parents.

Recommendations relating to the ongoing enactment of Applied Technology, Engineering, Graphics and Wood Technology

The review finds that the essence of each specification, in terms of its design in strands and learning outcomes, and designation of CBAs, is such that significant revisions or amendments that would necessitate the convening of a development group are not required.

It is proposed that some practical actions could be undertaken across the four subjects to address the more pertinent and prominent issues raised. Suggestions regarding a small number of learning outcomes that could benefit from clarification might be addressed through the provision of guidance from Oide, supported by NCCA. Such guidance would not only provide clarity on the scope of the learning outcome but also prompt thinking about diverse ways that teachers could meaningfully engage with the relevant learning outcome.

In addition, some amendments as required to Assessment Guidelines for subjects, including the possible refinement of Features of Quality, might be addressed, as well as the further development of examples of student work.

It is proposed that, subject to approval, the changes proposed by the Executive for each subject, as set out below, would be an appropriate response to the issues raised in the review.

Recommendations
In the case of each of the four Technology subjects, NCCA will: • Collaborate with Oide to devise means to support teacher professional development in the following areas:

    - Interrogating and interpreting certain learning outcomes identified in the review as requiring further elucidation or clarification.
    - Identifying ways to deepen and extend teacher awareness of the possibilities allowed in learning outcomes to integrate new or recent technological developments relating to the subject matter of the specifications.
    - Extending teacher capacity to plan for teaching, learning, assessment and reporting using the specification and a diverse range of resources.
    - Broadening approaches to classroom assessment and encouraging formative assessment practices.
    - Supporting students to engage in and describe reflective practices as required under certain assessment arrangements.
    - Extending and enhancing inclusive practices to better support all students.
    - Extending reporting structures to allow for a fuller picture of student achievement and progress to be reported.

- Update and publish further annotated examples of student work.

- Review, with the support of teachers, the nature of the Features of Quality for Classroom-Based Assessments and update as required.

- Explore how guidance and other measures could increase awareness of the Technology subjects as appropriate subject options for all students in senior cycle and improve uptake among female students.

- Consider possible implications of relevant findings from the University of Limerick-led longitudinal study on the implementation of the Framework for Junior Cycle for learning, teaching, assessment and reporting in the Technology subjects.

It is proposed that, subject to Council approval, the recommendations be pursued as appropriate.

It is hoped that the review process, the report that emerged from it, and the recommendations arising, continue to support students, teachers and school management in realising the aims for the subjects, and implementing the Framework effectively.

NCCA

An Chomhairle Náisiúnta
Curaclaim agus Measúnachta
National Council for
Curriculum and Assessment