Information and Communications Technologies (ICT) learning outcomes with four or more individual comments are presented in Table A Analysis of Comments and Responses. The column titled “Revised Learning Outcome” presents the Learning Outcome marked for changes from the exposure draft and reflect the ICT Task Forces discussion, debate and consideration of all comments received.
### Table A

**Analysis of Comments and Responses**

<table>
<thead>
<tr>
<th>Proposed Learning Outcomes in ED</th>
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| IES 2 (b) (iii) Analyze financial and nonfinancial data to provide relevant meaningful information for to support management decision making. | • Retain the term “relevant” (4 – ICAS, IDW, WPK, Common Content)  
• Combine Data and Information (DTT)  
• Include “and identify reliable data” after Analyze (MIA)  
• Changes not ICT or PS related, suggest reverting to previous Learning Outcome (KPMG) | • Relevance is considered to be inherent in the data and information used to support decision making. On this same basis, the word meaningful was removed.  
• The learning outcome has been modified to combine “data and information” consistent with our treatment elsewhere  
• The Task Force considered but believes that reliability of data has been addressed by other learning outcomes including IES 2 (f) (vi)  
• ICT was not specifically used in the learning outcome to avoid the unintended consequences of narrowing its meaning. The use of data and information is the common term used in ICT related learning outcomes | IES 2 (b) (iii) Analyze data and information to provide relevant information to support management decision making. |
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| IES 2 (f) (vi) **Assess the adequacy of systems, processes and controls for capturing, transmitting, reporting and safeguarding data and information.** | • Need to consider professional's ability at various levels (Azua & Brito)  
  • Suggest change of verb to something more foundational such as “analyze” or “understand” (JICPA)  
  • Consider combining with another IES (EYG)  
  • Refine Learning Outcome to include assessing and storing (MIA)  
  • Refine Learning Outcome to include processing and analyzing (PWC)  
  • Expand the Learning Outcome to include design and configuration of systems and communication with ICT professional (IMCP)  
  • Skills in Learning Outcome appears to border on skill required by an IT specialist (2 – BDO, Azua & Brito) | • As discussed with and agreed to with the Board, the Task Force did not undertake an analysis of proficiency levels. The implementation guidance to be issued concurrently with the expected revised standards will provide additional insight to non-authoritative learning outcomes with different proficiency levels.  
  • The learning outcome has been modified to include the verb “Analyze”  
  • Based on the input from stakeholder outreach, the Task Force identified a need for this separate learning outcome in this competency area.  
  • The Task Force believes that storing, processing and analyzing are captured in the words used in the learning outcome.  
  • The Task Force deliberated the comment by IMCP and determined this would be difficult to assess at the IPD level  
  • Based on outreach performed, these skills were highlighted by stakeholders as skills expected of accountants | IES 2 (f) (vi) **Assess Analyze** the adequacy of systems, processes and controls for capturing, transmitting, reporting and or safeguarding data and information. |
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<td>IES 2 (g) (iii) <strong>Apply data protection and privacy regulations when accessing, storing, generating, using and sharing data and information.</strong> Analyze the adequacy of general information technology controls and relevant application controls.</td>
<td>• Include Gathering or collecting when addressing privacy (AICPA) • Retain extant Learning Outcome (2 – ICAEW, KPMG) • Need to consider professional’s ability at various levels (Azua &amp; Brito)</td>
<td>• The Task Force amended the learning outcome to include the concept of collecting. • Note: while the mark-up indicates this is a replacement, it is actually a rearrangement not a replacement – see discussion of replacement in IES 2(h)(i) below. • As discussed with and agreed to with the Board, the Task Force did not undertake an analysis of proficiency levels. The implementation guidance to be issued concurrently with the expected revised standards will provide additional insight to non-authoritative learning outcomes with different proficiency levels • Additional changes were made to use ‘or’ rather than ‘and’ after consultation with the DWG; the ordering and range of ‘collecting, generating… etc’ items were also amended to be consistent across the suite of learning outcomes.</td>
<td>IES 2 (g) (iii) <strong>Apply data protection and privacy regulations when collecting, generating, storing, accessing, storing, generating, using and or sharing data and information.</strong></td>
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| IES 2 (h) (i) Analyze the adequacy of processes and controls. **Analyze the adequacy of general information technology controls and relevant application controls.** | • Context removed for these Learning Outcomes. These need a reference to financial or business matters (4 – ICAS, IDW, WPK, Common Content)  
• Retain extant Learning Outcomes. Proposed changes remove the context for the Learning Outcome (2 – ICAP, PwC)  
• Add internal controls and safeguarding the confidentiality, availability and integrity of data and systems (MIA)  
• Combine with other Learning Outcomes (BDO) | • The learning outcome has been modified to include “information and communications technologies (ICT)” to add context.  
• The Task Force deliberated the concept of general information technology controls and application controls and, based on stakeholder feedback, considered these terms to be dated and limiting.  
• The Task Force believes the concepts (safeguarding, integrity, etc) identified by MIA are substantially addressed in other learning outcomes including IES 2 (g) (iii).  
• Based on outreach performed, the Task Force considered and concluded the context for a learning outcome was influenced by its competency area; accordingly, combining the learning outcomes would change their intent. | IES 2 (h) (i) Analyze the adequacy of information and communications technologies (ICT) processes and controls. |
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| IES 2 (h) (ii) Recommend improvements to processes and controls. Analyze the adequacy of processes and controls. | • Proposed revision is too general and not ICT specific (5 – ICAS, IDW, WPK, PwC, Common Content)  
• Change verb to “Explain” (ICAS); Change verb to “Apply” (Bowman & Lemon)  
• Retain extant Learning Outcome (ICAP) | • The learning outcome was modified to include information and communications technologies to provide better context.  
• The learning outcome was modified to “Identify” to be consistent with the foundational level of competence more in line with expectations of an aspiring professional accountant.  
• Note: while the mark-up indicates this is a replacement, it is actually a rearrangement not a replacement of the extant learning outcome in IES 2(h)(i). | IES 2 (h) (ii) Recommend Identify improvements to ICT processes and controls. |
| IES 2 (h) (iii) Apply ICT to increase the efficiency and effectiveness of processes. | • Add controls (2 – MIA, BDO)  
• Proposed revision is too general and not ICT specific (2 – WPK, Common Content)  
• Do not include as a standalone ICT learning outcome (ICAP)  
• Limit to financial processes (AAT) | • Modifications were made to the learning outcome to increase ICT relevance. Clarity was made by including ‘organization’s systems’ to reflect a broader approach.  
• The Task Force has revised the definition of ICT as well as proposed modifications to the learning outcome.  
• Based on outreach performed, the skills in the learning outcome were highlighted by stakeholders as those now expected of accountants. | IES 2 (h) (iii) Apply ICT to increase enhance the efficiency and effectiveness of an organization’s systems of processes. |
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| **IES 2 (h) (iv) Explain how ICT supports data analysis and decision making. Use ICT to analyze data and information technology to support decision making through business analytics.** | • Change verb from “Explain” (3 - IDW, WPK, Common Content)  
• Retain extant Learning Outcome (ICAP) | • Based on outreach performed, the “Explain” level of this skill is now expected of an accountant.  
• Note: while the mark-up indicates this is a replacement it is actually a rearrangement. See discussion of extant learning outcome in IES 2 (h) (vi). | No changes proposed |
| **IES 2 (h) (vi) Use ICT to communicate with impact and influence others.** | • “Influence” may not be consistent with role of independent Auditor (PWC)  
• Reconsider use of “Communicate with Impact” (DTT)  
• Change category to “Interpersonal and Communication” (BDO)  
• Revert to extant language and make this non-authoritative (ICAP) | • The learning outcome has been modified to remove “influence” as the Task Force agreed this could be open to misinterpretation.  
• The learning outcome has been modified to remove the language “with impact” as this was considered to be vague and difficult to measure. Also, an “impact” could be both positive and negative.  
• The learning outcome has been modified to place more emphasis on the technology used than the communication to better reflect the competence area.  
• Based on outreach performed, these ‘usage’ skills were highlighted by stakeholders as skills expected of accountants. | IES 2 (h) (vii) Use technology effectively to ICT to communicate with impact and influence others. |
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| IES 2 (k) (iv) Explain the processes that may be used to **develop and implement** the strategy of an organization. | • Incorporate ICT into this Learning Outcome or retain extant language (2 – ISCA, KPMG)  
• Incorporate risk and its potential impact on strategy (AICPA)  
• Incorporate the understanding of an accountant’s role in these processes (AAT) | • The Task Force considered the comment and believes that the addition of ICT would unnecessarily limit the intended scope of the learning outcome.  
• The Task Force believes that risk is addressed in other learning outcomes including IES 2 (f) (iii).  
• Based on the feedback received as part of stakeholder outreach, the Task Force believes that, when read in conjunction with the suite of learning outcomes, this particular learning outcome does reflect the role of the professional accountant. | No changes proposed |