IAESB International Accounting Education Standards Board

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Committee: International Accounting Education Standards Board (IAESB)
Meeting Location: Bali, Indonesia
Meeting Date: April 9 – 11, 2019
Subject: **Information and Communications Technologies Project Issues Paper – Development of Non-Authoritative Implementation Guidance: Detailed Learning Outcomes Relating to Information and Communications Technologies (04/19)**

INTRODUCTION

1. There are two objectives of this Issues Paper:

   a. Brief and request input from the IAESB (the "Board") on the process used by the Information and Communications Technologies Task Force (the "ICT Task Force") to develop Non-authoritative Detailed Learning Outcomes ("NDLOs").

   b. Request the Board's input on three areas related to the NDLOs:
      - the presentation approach for the implementation guidance,
      - whether any NDLOs are inappropriate, and
      - recommendations for significant enhancements.

2. The NDLOs and their mapping to the Learning Outcomes in *Exposure Draft, International Education Standards 2, 3, 4, and 8 – Information and Communications Technologies and Professional Skepticism* issued in December 2018 (the "Exposure Draft") is presented in the following agenda item.

Agenda Item 5-2	Non-Authoritative Implementation Guidance: Detailed Learning Outcomes Relating to Information and Communications Technologies (04/19).

BACKGROUND

Project Description

3. A summary of the key points in the ICT project is being presented for background purposes.

4. Changes in technology across the financial reporting supply chain are impacting the ICT competencies and skills needed by aspiring and professional accountants ("Accountants") to perform their roles. Identifying the ICT skills needed by Accountants serves the public interest by enabling the accounting profession to provide high quality financial reporting, auditing, or other related financial and accounting services in the digital age. The Board identified ICT as a strategic priority to accountancy education.

5. The ICT Task Force commenced its activities in February 2017 and has held monthly conference calls and in-person meetings in June and November 2017 and April, October and November 2018. The ICT project plan was approved by the IAESB at its November 2017 meeting.

6. The scope of the project was driven by the overall focus on professional competence and the evolution of the knowledge, skills and behaviors (collectively referred to as skills) needed in ICT. The approach was a baseline evaluation of skills that are needed without consideration of the existing Competency Areas and Learning Outcomes in the International Education Standards (IESs).

7. Five ICT elements were developed to guide the input obtained from information gathering activities and served as the basis for developing an ICT skills inventory and resultant Learning Outcomes included in the Exposure Draft (reference Appendix I for a description of the five ICT elements).

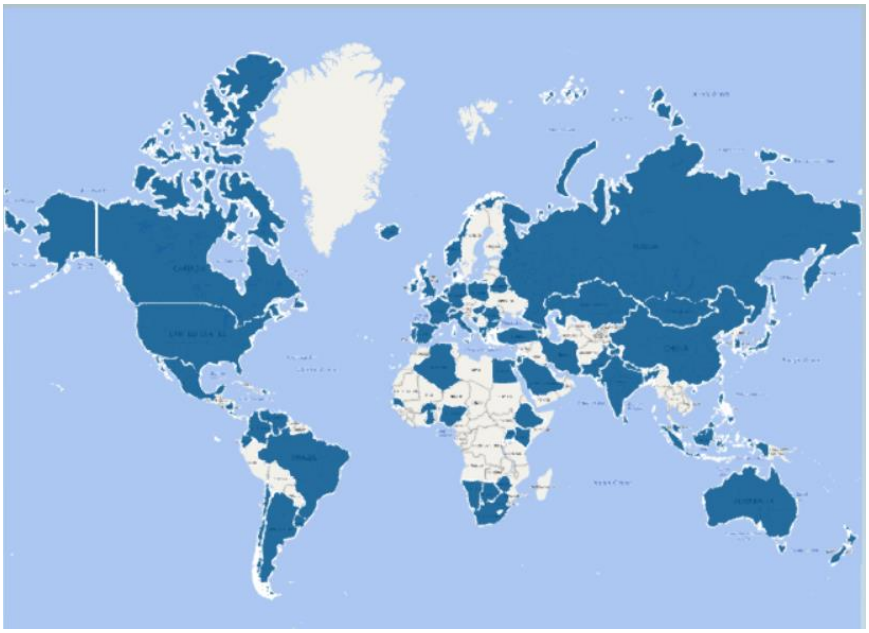
   Business Acumen
   Behavioral Competence
   Digital Acumen
   Data Interrogation, synthesis and analysis
   Communication

8. As more fully presented at the July 2018 Board meeting, the sources of information gathering activities and the methods used to obtain feedback and insights from the stakeholders were as follows:

Source	**Outreach Methods**
IFAC member bodies	Initial Online Surveys Targeted Online Surveys Individual Interviews Group Interviews
Professional Accountants in Business Committee **Academics** **American Accounting Association** **AACSB**	Initial Online Surveys Targeted Online Surveys Interactive Webinars Roundtables: - Nairobi, Kenya

Source	Outreach Methods
Regulators **Practitioners** **Other professional accounting organizations**	- Mexico City, Mexico - Chengdu, China Presentations and Discussions
Literature review and recent articles	Literature Review conducted by J. Birt (CAG Member) Article Review
ISAs, Auditing Standards issued by the PCAOB and Ethics Standards	Analysis of content to identify ICT skills inherent in the standards
Frameworks issued by CGMA, IMA, AICPA, AIA, ACCA, CFI, HKICPA, SAICA. [1]	Analysis of content to identify ICT skills

9. Also highlighted at the July 2018 Board Meeting was the high degree of geographic dispersion from where input was obtained as depicted by the countries in dark shading (see below).



10. This outreach resulted in 1,063 data points that were used in the judgmental evaluation of ICT skills needed by Accountants. The ICT Task Force previously concluded, and the Board agreed there was sufficient diversity in countries, stakeholders, and types of analysis to provide a reasonable basis for the development of Learning Outcomes included in the Exposure Draft.

11. The Learning Outcomes in the Exposure Draft were developed to produce principles-based learning outcomes consistent with stakeholders' expectations. Within this context, and based

[1] Chartered Global Management Accountant, Institute of Management Accountants, American Institute of Certified Public Accountants, Association of International Accountants, Association of Chartered Certified Accountants, Corporate Finance Institute, Hong Kong Institute of CPAs, and South African Institute of Chartered Accountants organizations.

on feedback received, the following was recognized: a) the principles-based learning outcomes did not capture the depth of the input received during the information gathering activities and b) issuing implementation guidance concurrent with new standards is of value to stakeholders. In response, NDLOs were developed.

Development of Implementation Guidance

12. The ICT Task Force analyzed the skills identified from the information gathering activities and developed a series of actionable items through an ICT lens that were linked to the principles-based Learning Outcomes as presented in the Exposure Draft. The overarching objective was to develop NDLOs that provide insight into the application of the principles-based Learning Outcomes. The NDLOs provide users with an opportunity to reference how a principles-based learning outcome can be viewed using an ICT lens, or for certain NDLOs more broadly, provide a menu of learning outcomes that the user may want to incorporate into their program, or provide ideas or considerations when users are developing their own learning outcomes.

13. As presented in Agenda Item 3-4 of the ICT Task Force's July 2018 Issues Paper, 92 "Granular Skills" were developed. These were the pre-cursor to the NDLOs that demonstrated a viable proof of concept for this approach to implementation guidance. A high-level overview of the process is depicted in the following diagram.

14. To develop the NDLOs that will be issued as Implementation Guidance, the process below was followed. This process is principally the same as that used to develop the Learning Outcomes presented in the Exposure Draft.

    a. The ICT Task Force drafted detailed learning outcomes from the granular skills leveraging those Task Force members who have expertise and experience in the development of learning outcomes, including the use of the appropriate directive verb and methods of assessment.

    b. The mapping of these detailed learning outcomes to IESs, competency areas and Learning Outcomes as presented in the Exposure Draft was provided to a Cold Review Team (CRT), which was formed with the objective of independently evaluating the draft NDLOs. The CRT was established during the drafting of the Learning Outcomes to provide an independent review of the Learning Outcomes. The ICT Task Force found this review to be very valuable and requested the CRT to also review the NDLOs.

c. The mapping of the NDLOs to IESs, competency areas and Learning Outcomes as presented in the Exposure Draft was also provided to the Drafting Work Group (DWG) for a light review.

15. The DWG had four overarching comments on Agenda Item 5-2. These comments with the ICT Task Force response is presented below.

	DWG Comment	**ICT Task Force Response**
1	Should the NDLOs have a numbering system similar to the IESs?	The ICT Task Force believes that a numbering system layered on the existing numbers and letters in the IES could result in confusion, could imply completeness to the NDLOs, or create confusion that NDLOs are a prescriptive interpretation of the Learning Outcomes in the Exposure Draft. The presentation has been modified from that originally presented to the DWG that the ICT Task Force believes accomplishes the intent of the DWG and addresses the potential for confusion as described.
2	There is duplication of NDLOs across learning outcomes.	The duplication of NDLOs was purposeful by the ICT Task Force. The basis for this approach is NDLOs are integrative in nature and are supportive of the learning and development process - it does not occur in a sequential order one learning outcome at a time - there is inherent crossover across learning outcomes. The NDLOs are meant to be a "menu" that stakeholders can choose from related to each Learning Outcome. They may choose to refer to some NDLOs and not others. It is with this view the ICT Task Force believes none should be removed. However, the ICT Task Force recognizes the clarity in communication that will be needed when the implementation guidance is issued and will consider this when developing the communication plan.
3	There are NDLOs that do not have an obvious connection with ICT.	While the ICT Task Force recognized there is no explicit ICT connection with certain of the NDLOs, there was significant feedback provided through the information gathering activities that behavioral skills such as professional growth, professional development, development of self and others, and communication are essential in the support of ICT skills.

	DWG Comment	ICT Task Force Response
		The Behavioral Competence project was not completed due to the future status of the Board; accordingly, the NDLOs have served as the basis to communicate the importance of these skills.
4	Add an introduction to the NDLOs.	An introduction has been added.

DISCUSSION

16. Recommendations from the CRT and DWG to the NDLOs were considered and incorporated into the draft as presented in Agenda Item 5-2.

Requested Action:

A. The ICT Task Force has concluded the process to develop the NDLOs from information gathering activities is sufficient and provides a reasonable basis on which to issue non-authoritative guidance. Do you agree?

Implementation Guidance - NDLOs

17. Agenda Item 5-2 provides the mapping of the NDLOs to IESs, competency areas and Learning Outcomes as presented in the Exposure Draft. This is the presentation format the ICT Task Force is recommending for publication. Within the context of issuing non-authoritative guidance, the ICT Task Force is requesting input through the questions below.

Questions:

B. Do you agree with the planned presentation by which the NDLOs will be issued, specifically, the format as presented in Agenda Item 5-2?

C. Are there any NDLOs you consider to be inappropriate? If so, which ones and why?

D. Are there significant enhancements to the NDLOs you recommend? If so, which ones and why?

PROPOSED MILESTONES, TIMELINE, AND WAY FORWARD

18. The proposed milestones and expected completion dates from the current time period forward are presented below.

	Milestones	Completion Dates
1	Obtain the Board's input from the Issues Paper discussion.	April 2019
2	Incorporate Board's input and present final NDLOs to the Board for approval.	June 2019
3	Issue NDLOs concurrent with the issuance of Revised IES 2, 3, 4 and 8.	September 2019 (after PIOB approval of revised standards)

RESOURCES

19. The Task Force members are Anne-Marie Vitale (Chair), Helen Partridge (Secretary), David McPeak (IAESB Staff), Keryn Chalmers, Mienkie Etcheverrigaray, Sue Flis, Sarah Jakubowski, Steve Matzke, Greg Owens and Sidharta Utama.

20. The CRT members are Elizabeth Gammie, Catherine Edwards, Raef Lawson, and Karl Thaesler.

APPENDIX I

The five ICT elements identified and supported by information gathering activities are presented below

	ICT Elements	April 2018 Description
1	**Business acumen**	Strategic business decisions are based on the integration of appropriately analyzed large data sets and professional judgment as applied to differing business environments amongst stakeholders such as vendors, customers, and employees. Understand the impact ICT has on business models and risk, including how current and emerging technologies will impact the way business is conducted and measured.
2	**Behavioral competence**	Enhance intellectual curiosity, critical thinking, agility and life-long learning to effectively respond to an environment of rapid technological change. Professional judgment and professional skepticism will be applied in more situations faced by Accountants, which requires a strong sense of self- and situational-awareness. Demonstrate ethical use and dissemination of data.
3	**Digital acumen**	Understand how new and emerging technologies operate, are used, and impact the generation, processing, and flow of data. For example, increased functionality through the cloud, elimination of manual processes through robotic process automation, artificial intelligence that senses, analyzes and learns from data and automates decision making, and blockchain that securely records transactions and eliminates third party verification or reconciliation. Understand and influence how governance effectively oversees the impact of ICT, including data security.
4	**Data interrogation, synthesis and analysis**	Use structured and unstructured data, evaluate data integrity (complete, accurate and relevant) and understand exceptions to expectations. Effectively and appropriately interpret the “story” the data is telling and make decisions accordingly. Conduct risk assessments, predictive analysis and effectively use visualization tools.
5	**Communication**	New and emerging technologies will change the channels of communication from and across systems, for example, using social media and smart devices. Effectively use new and emerging communication channels to communicate with impact, influence, and tell the “story” of new insights gained through the use of technology.