NAIT Board of Certification Agenda
November 15, 2006
Cleveland, OH
Crowne Plaza City Centre: Hope
1:00 p.m. – 5:00 p.m.

Present:

1. Dr. Dennis Field (Chair)
2. Dr. Richard Phillips (CCTI Division, Region 5)
3. Mr. Ed Christy (Industry Division, Region 5)
4. Mr. Sergio Sgro (Student Division)
5. Dr. Farzin Heidari (University Division, Region 4)
6. Dr. Mark Miller (Lay Public Representative)
7. Dr. Dru Wilson (Lay Public Representative)
8. Dr. Nicholas Akinkuoye (CCTI Representative, Region 4)
9. Dr. Feng-Chang Roger Chang (Industry Division, Region 4)
10. Dr. Harry Orr (guest, by request of Kim Travers as potential CCTI replacement)
11. Mr. Rick Coscarelli (guest)
12. Dr. James Smallwood (guest)

Absent:

1. Dr. Linda Nelson (University Division, Region 6)
2. Mr. Paul Kinsey (CCTI Division, Region 6)
3. Mr. Dave Monforton (Certification Officer)
4. Mr. Stephen Dunn (Industry Division, Region 3)
5. Dr. LaVerne Harris (University Division, Region 5)

Welcome

Distribute minutes of previous meeting

Minutes of the Previous Meeting:

Motion by Miller: ***Approve the minutes of the Board of Certification meeting from St. Louis, MO November 16, 2005.*** **Seconded by Phillips. Motion carried.**

Unfinished Business:

1. Prior to the meeting Coscarelli requested that the Board discuss the elimination of the requirement for a proctor during on-line administration of the certification exam. Coscarelli stopped by the meeting shortly after 1:00 to update the Board on progress toward offering the certification exam on-line. Barring unforeseen circumstances, the exam should be available after the 1st of the year. A reporting module is available as well.
   - There seemed to be a feeling that circumstances surrounding an exam administration in an academic setting are different than circumstances surrounding an administration in a professional/industrial setting; and that therefore the requirements for a proctor could be different.
   - Included in the discussion were the following comments:
     - People don't typically ask if a certification exam has been proctored when they see it on a resume.
     - Larger test banks, and random ordering of the exam questions could minimize the chance that cheating could occur.

- The certification program would be taking a huge risk by eliminating the requirement for a proctor, if the value of the certification was diminished by this action, it would be extremely difficult, if not impossible to reverse perceptions. How does one know who is taking the exam, and under what circumstances the exam was completed, etc.
- The effect of removing the requirement for a proctor depends on how the exam is being used.
- As an aside, concern was expressed about offering the exam without a proctor on behalf of institutions utilizing the exam as an exit exam or for program assessment. It could diminish the value of the exam for those stakeholders.
- It should not be that difficult to find a proctor, particularly in an academic setting. In an industrial setting, the suggestion was made that a reasonable compromise might be to ask a supervisor or someone in Human Resources to serve as proctor with a "pledge" signed (neither given nor received help on the exam …)
- It might be difficult for Coscarelli and Monforton to verify proctors
  - The above should not be used as an excuse to eliminate proctors

Motion by Phillips: ***A proctor is to be designated for certification exam administrations*** **. Seconded by Heidari.**
Friendly amendment offered by Miller: ***An institutional representative may serve as the proctor when the exam is administered in an academic setting. In an industrial setting, an examinee's supervisor or a Human Resource designee may serve as a proctor.*** **Seconded by Akinkuoye. Motion carried.**

2. Field updated the Board on the results of the exam administration over the last year (i.e., pass rate, psychometric properties of the new items, demographics of the examinees, etc.). The PowerPoint presentation covering most of the information is attached. The point-biserial discrimination and difficulty values for each of the new items undergoing beta test is shown below. Items were flagged if the discrimination value was less than 0.13.

		discrimination	p
Chemistry		0.22	0.14
Chemistry	FLAG	0.10	0.28
Chemistry		0.19	0.69
Chemistry		0.18	0.87
English		0.25	0.74
English	FLAG	0.06	0.56
English	FLAG	0.11	0.73
Physics		0.33	0.30
Physics	FLAG	0.04	0.33
Physics		0.41	0.38
Algebra		0.21	0.55
Algebra	FLAG	0.12	0.87
Algebra		0.19	0.19
Trigonometry		0.13	0.23
Trigonometry	FLAG	0.11	0.26
Trigonometry		0.31	0.82
Trigonometry		0.25	0.59
Project Management	FLAG	0.03	0.46
Project Management		0.35	0.44
Project Management	FLAG	0.12	0.20

- A question was asked regarding the impact of students not having had classes in content areas on the associated discrimination and difficulty indices.
  - Guessing will drop both indices, although one would expect the difficulty to bottom out somewhere around 0.25 since the questions are multiple choice with four possible answers.

- The decision was made to leave the new questions as beta items pending implementation of the on-line exam. A decision will be made next year whether to include all or part of the new items in pass/fail scoring.

3. Discussion regarding the policy manual. It is scheduled to be updated.
   - Question as to whether the policy manual (handbook) addresses the issue of a proctor. It does not at this point, but could in a revision.

4. Discussion regarding the item banks:
   - Targets for each of the item banks
     - 100 questions according to a test "blueprint"
     - Continually improve difficulty and discrimination indices
     - Would be able to compare performance relative to aggregate information from other institutions
     - Concern expressed that item banks with ability to pick and choose exam components might be OK for program assessment, but not for certification
     - Question regarding test options other than just multiple choice format
       - Possible to have other formats. Richard Kimbell's assessment work in England cited. Possible (but not easy) to have multiple choice questions that target higher order thinking skills.
   - Comments regarding the content areas
     - Need to list all targeted manufacturing processes
     - Focus on what industry wants
       - May need to add items such as Lean concepts (what is our niche?)
       - Miller will check with the Manufacturing Division to see if they can take on oversight of getting materials
     - Suggestion to add a process to the policy manual to follow to get emerging content areas addressed in the exam
     - Suggested new content areas included Lean Manufacturing, Six Sigma, Welding, Metallurgy, and Heat Treating
     - Field is covering the quality content area. He will check with the Safety Division for exam items in the safety area
     - Suggestion that there be 12 content areas covered on the exam with 10 questions each. Content areas should have the same number of questions.
     - We might want to increase the suggested number of 120 questions to 150 to allow for beta test questions that can be analyzed for psychometric properties before release for scoring purposes.

5. Report on generation of specialty exams complete through pretest activities
   - The number of specialty exams proposed stands at five since individuals have volunteered (or agreed) to head up the additional three efforts to generate at least 100 questions in each content area. Assignments are as follows:
   - Manufacturing Technology: Mark Miller and Steve Dunn
     - 200-question draft exam submitted November 2006
     - Concern expressed that some of the questions are too specific (welding, for example)
   - Drafting/CAD: Sergio Sgro
     - Assigned November 2006
   - Electronics: Julio Garcia and Mohan Kim (San Jose State University)
     - No report as of November 2006
   - Transportation: Mark Durivage

    - 70-question draft exam for Diesel Technologies submitted Nov. 2006
- Graphic Design: Linda Nelson
    - No report as of November 2006
- Dr. Randy Peters (Management) offered to get involved in exam item development; as did Dr. Harry Orr (Physics)

6. Finally, a list of three-year goals, action items, and milestones list was generated.
    - Increase to at least 25, the number of programs using the exam ***routinely*** as an assessment tool. Routinely means that the exam has been administered multiple times to at least five examinees at a time, with plans to continue using the exam as evidenced by a satisfaction survey.
        - 15 currently meet the "numbers" requirements. A satisfaction survey has not yet been administered.
    - Increase by at least 10%, the number of certified individuals.
        - There was a 2% drop in the number of certified individuals between June 2006 (342) and January 2007 (335)
    - Complete and make available a hardcopy study guide that includes lists of reference books, content coverage, at least 10 sample exam questions in each content area, and a discussion of the types of things that successful examinees are expected to know.
        - Online
    - Double the number of items in the item bank. Sub-goals involve identifying content area experts within one year who are willing to assist the Board; increasing the item bank by 40 items within two years; and increasing the item bank by 160 items within three years.
        - Incomplete
        - Can we tap the divisions to head up this effort
    - Generating two specialty exams complete through pretest activities—one in Drafting/CAD, and the other in Manufacturing Technology.
        - Mark Miller is working on MT (next step question % in each area on test)
            - Get questions from others to add to item bank, then update and send out for review (10 each area)
            - April 1 updated draft on exam
            - What should the name of the cert be?
        - Serg will take on CAD
        - Durivage submitted a draft exam on diesel technologies
    - Complete a policy development manual for the Board of Certification, including sections on question review/replacement and policy updates.
        - Incomplete
    - Beta test on-line examination administration with at least one NAIT program.
        - Incomplete

Motion by Miller to adjourn. Seconded by Heidari. Motion carried. The meeting was adjourned at 4:15 p.m.