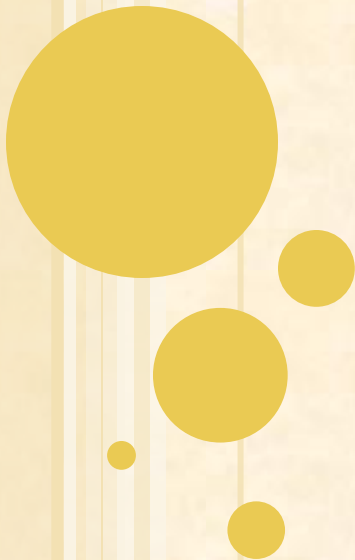


CAT, IACAT, AND THE FUTURE

Nathan Thompson

Assessment Systems Corporation



THE CURRENT STATE OF CAT

- CAT has expanded substantially in the past 10 years
 - More research
 - More software
 - More testing programs
 - IACAT established



THE CURRENT STATE OF CAT

- This leaves a bright future, but not without challenges
 - Supporting research; we want the technology to continue to evolve
 - Making CAT more efficient (2010)
 - Educating people: better understand CAT, its benefits, and its drawbacks
 - Help CAT be used more, when possible
 - Can we ensure that CATs are quality?



A REASON FOR IACAT: MISSION

- **Encouragement of scholarly efforts to:**
- Advance the science of adaptive testing in all fields of applied psychological and educational measurement;
- Improve adaptive instruments and procedures for their administration, scoring, interpretation, and use;
- Improve applications of adaptive assessment of individuals and evaluations of assessment programs.
- Theory, techniques, technologies and instrumentation available for adaptive measurement in all relevant human, institutional, and social characteristics;
- Procedures appropriate to the interpretation and use of such technologies and instruments;
- Applications of adaptive measurement in individual and group evaluation studies.



A REASON FOR IACAT: MISSION

- **To achieve these aims, IACAT will:**
- organize international meetings and discussions;
- promote the publication of relevant information by means of its own and other publication outlets;
- stimulate international cooperation on research projects relevant to a scientifically and ethically sound use of adaptive testing;
- be available to act as an intermediary in international negotiations concerning the publication and marketing of adaptive tests;
- advance professional development and work to raise standards governing test development and use.



A REASON FOR IACAT: A 5 YEAR PLAN?

- Some goals for IACAT
 - Support and advance research - #1
 - Promote the use of CAT
 - Educate those wishing to learn more
 - Stakeholders
 - New researchers
 - Examinees, parents, and the public



A REASON FOR IACAT

- CAT Central (Dave Weiss' website) did much
- Is being ported to the IACAT site
- How can we better use the website and other avenues to further the goals of IACAT?
- I will:
 - Make/discuss suggestions
 - Discuss results of our recent survey
 - If you are interested in helping, please let me know



RESEARCH

- End goal: Making the technology of CAT better
- Endeavors of IACAT:
 - JCAT
 - Student grants
 - Annual conference
 - Online bibliography
 - Central location of papers/articles
 - Online forums to discuss research

RESEARCH

○ Ideas

- How do we get more researchers interested? And also understand what is involved?
- ???

EDUCATION

- We not only want non-psychometricians to better understand benefits, but also the disadvantages
 - When is CAT *not* a good idea? (high school teachers, non-psychometrician researchers that think it a piece of cake)
- Current resources
 - IACAT website pages
 - Larry's tutorial
 - Each testing program has own materials
 - Wikipedia and other non-organizational sources

EDUCATION

○ Ideas:

- Make IACAT pages better
 - Accurate but readable description of CAT
 - Explaining what CAT is not
 - Requirements of CAT
 - Need some SEO after we have good content
- Help testing organizations and other websites provide similar quality info
- Finding other outlets (non-psychometric journals, general public media)
- How can we educate stakeholders as *consumers* so they know a real, quality CAT when they see one?

PROMOTING USE OF CAT

- Well, *quality* CAT
- Currently:
 - IACAT Website: list of CAT programs
 - Increased availability of software
 - Software that is more user-friendly
 - Pre-conference and other workshops

PROMOTING USE OF CAT

○ Ideas:

- Expand list of CAT programs
- Guidelines on how to make a quality CAT (like NCCA accreditation, even if we don't accredit/review)
- **How can we spread the technology while still respecting intellectual property?**

2012 SURVEY

- We did a survey in June for a needs assessment
- Sent to members, but not limited to them (only 103/236 were members)
- We asked questions related to the issues presented so far

2012 SURVEY

IACAT provides a number of services. What is the best way(s) for it to support CAT research around the world?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Online bibliography	131	0.56
B.	Website forums	102	0.43
C.	Annual conference	149	0.63
D.	Research grants for graduate students	85	0.36
E.	Software reviews and information on website	133	0.56
F.	Other	9	0.04

2012 SURVEY

What is the best way(s) for IACAT to help further CAT with non-psychometricians?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Basic information on website	123	0.52
B.	CAT tutorial	163	0.69
C.	Links to resources and current CAT programs	113	0.48
D.	Write articles for non-technical publications	138	0.58
E.	Other (ideas?)	10	0.04

2012 SURVEY

What do you feel will most help CAT be used more?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Theoretical research	46	0.19
B.	Practical research	159	0.67
C.	Researching new applications of CAT	89	0.38
D.	Educating the public	71	0.30
E.	Educating stakeholders (e.g., teachers and administrators in education)	125	0.53
F.	Educating decision makers in other organizations that use tests	125	0.53

2012 SURVEY

What do you feel is the largest hurdle to implementing CAT? (Especially if your organization currently publishes CATs!)

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Explaining CAT to examinees	11	0.05
B.	Explaining CAT to stakeholders	52	0.22
C.	Implementation of the CAT	81	0.34
D.	Obtaining sufficient sample sizes	44	0.19
E.	Finding staff with appropriate skills	44	0.19

2012 SURVEY

Which research topic(s) still needs the most work?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Making CAT more efficient	56	0.24
B.	Item exposure	49	0.21
C.	Item selection methods	75	0.32
D.	New models (e.g., Cognitive diagnostic models, response time)	116	0.49
E.	Termination criteria	37	0.16
F.	Practical constraints (content, time)	113	0.48

2012 SURVEY

In which area do you think CAT is currently used the most?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Education	119	0.50
B.	Pre-employment	17	0.07
C.	Certification & Licensure	56	0.24
D.	Medicine	11	0.05
E.	Psychology	27	0.11
F.	Other	3	0.01

2012 SURVEY

In which area(s) would you like to see CAT used more (check all that apply)?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Education	146	0.62
B.	Pre-employment	75	0.32
C.	Certification & Licensure	93	0.39
D.	Medicine	70	0.30
E.	Psychology	94	0.40
F.	Other	14	0.06

2012 SURVEY

Are you aware that IACAT has founded a refereed electronic journal?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Yes	121	0.51
B.	No	114	0.48

Do you have an account on IACAT.org? (You are not a member if you do not have an account!)

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Yes	103	0.44
B.	No	130	0.55

2012 SURVEY

How did you originally hear about IACAT?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Conference	28	0.12
B.	LinkedIn page	15	0.06
C.	ASC or Dave Weiss email lists	91	0.39
D.	Colleague	49	0.21
E.	Other website or email list	51	0.22

2012 SURVEY

Currently, IACAT has no membership fees. Should there be a membership fee to support IACAT's activities?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Yes	98	0.42
B.	No	134	0.57

Currently, IACAT members pay the same fees as others to attend IACAT conferences. Should there be a discount for IACAT members?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Yes	179	0.76
B.	No	51	0.22

2012 SURVEY

As an international organization, IACAT has decided to hold its annual conferences in different countries each year, insofar as possible. Should this continue?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	Yes	208	0.88
B.	No	27	0.11

Which of the following IACAT conferences have you attended?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	2010	41	0.17
B.	2011	32	0.14
C.	2012 (planned)	70	0.30

2012 SURVEY

To which of the following IACAT conferences have you submitted papers or otherwise participated in the program?

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	2010	35	0.15
B.	2011	24	0.10
C.	2012	41	0.17
D.	None	136	0.58

2012 SURVEY

How could you help IACAT achieve its goals? (check all that apply)

<u>Answer</u>	<u>Text</u>	<u>N</u>	<u>Prop.</u>
A.	I have Web programming skills that could help with technical aspects of the website.	16	0.07
B.	I could develop a new online CAT demo to replace the old demo	11	0.05
C.	I have some time that I could contribute to help maintain and improve some non-technical part of the website	39	0.17
D.	I would be willing to serve on an IACAT committee	76	0.32
E.	I have some ideas about new initiatives	24	0.10
F.	I could help in other ways	85	0.36

WHERE DO WE GO FROM HERE?

- Conferences are good!
 - 2013
 - 2014
- So is practical research; we agree we still have a lot to do
 - New models and practical constraints
- Expand the IACAT website, especially to help educate stakeholders and decision makers
- Need to get the word out on IACAT.org and JCAT

WHERE DO WE GO FROM HERE?

- Biggest hurdle: actual implementation of the CAT
 - We need to address this to help CAT be used more
 - Generally available platforms? (Concerto and FastTest Web)
 - Better understanding of process/model/development?
- Keep up the excellent research – I hope to see you next year!!!!