Recognizing the Most Influential CS Education Papers

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SUMMARY
This special session is devoted to identifying the CS education papers of the 20th century that have had the greatest influence on our practice of CS education today. The point is not primarily to produce the list of papers; rather it is to derive criteria, principles, and practices for identifying valuable contributions to CS education. This will provide a basis for establishing of awards or other recognition for influential contributions to CS education; it may also clarify the criteria for reviewing all papers. Invited participants will identify influential papers and their criteria for selecting them; the audience will also be encouraged to nominate papers and propose selection criteria. The results of this session will be communicated to the SIGCSE leadership, who will decide whether, and how, to implement any actual awards.

Categories and Subject Descriptors
K.3.2 Computer and Information Science Education

General Terms
Documentation

Keywords
Influential papers, publication process, recognition of excellence, awards

1. OVERALL OBJECTIVE OF THE SESSION
Two separate threads led to this session.

The first is a view that seems widespread in the SIGCSE community, at least among those who have been SIGCSE participants for many years. They feel that SIGCSE papers too often don’t adequately take prior work into account; they often show no awareness of results or experiences that were established and published more than a few years back. In fact, the new review process with assistant program chairs is one approach to addressing this issue.

The second event that prompted this session was a colleague of the organizer who won an award at the International Conference on Software Engineering (ICSE 2008): Most Influential Paper from Ten Years Ago. The ICSE conference organizers each year look at the ICSE conference of ten years ago and decide which paper at that conference had the greatest influence on the field in the intervening period.

We think that SIGCSE should establish a similar award; besides recognizing the best work, the award would raise awareness of past work and prompt educators to look further back for solutions and insights, thereby reinventing fewer wheels. Having a SIGCSE award for most influential paper of ten years ago would also build a sense of CS education as a discipline with a history and an established body of published results. While college teachers in most subfields of computer science have spent many years of graduate study in their subfields, few computer science educators have done graduate study in computer science education. Thus, this additional opportunity for exposure to significant past work in CS education would be particularly valuable.
By asking invited participants and the audience to identify influential papers, this session will begin the discussion of how to determine which contributions should win such an award.

It is important to note that the purpose of this session is not primarily to determine what the most influential papers are. Rather, it is to undertake a rather loose prototype process for selecting influential papers. We expect this activity to bring forth the range of criteria that any actual, eventual selection process would have to establish. These might include the following:

• What counts as a publication for this recognition? Do we include SIGCSE workshops or panels or special sessions? Do we include software?

• From which journals or conferences should publications be considered? Might we recognize an innovation published in a venue not oriented towards education?

• Should the recognition be categorized (“CS education research” vs. experiential reports vs. tools, for example)?

• If a tool is influential, is the paper describing it necessarily influential?

• Must the influence be broad, or is significant influence on one particular area (e.g., programming languages or nontraditional students) sufficient for recognition?

• Is ten years the right length of time for a proper perspective in CS education?

These questions are only representative; the reason to have this session is to bring out questions that we cannot anticipate in advance.

For purposes of the session, the invited participants and the audience at large will be asked to identify the three CS education papers published before 2000 that they believe have had the greatest positive influence on our practice of CS education today. They would also be asked to reflect on their selection process and the criteria they had to resolve.

Each invited participant is a computer science educator of long experience; among them they have won major SIGCSE awards, taught graduate courses on computer science education, and made influential contributions themselves. They will launch the discussion with their paper nominations.

In advance of the conference we will also poll the SIGCSE community via the mailing list, describing the session and its motivation, collecting paper nominations, and inviting participation in the special session to discuss their criteria. As the timetable below indicates, the largest block of time at the session would be an “open mike” session at which anyone will be invited to describe their selection process.

The results of this session will be communicated to the SIGCSE leadership; they will decide whether, and how, to implement an actual award.

2. OUTLINE OF THE SESSION
0:00 to 0:10: Organizer describes the motivation and goals of the session and the schedule.

Throughout the session, the organizer or an assistant will record the issues, processes, and criteria that are raised.

0:10 to 0:35: Invited participants present the influential papers they identified and describe the criteria they used.

0:35 to 0:65: Audience members present their influential papers and describe their selection process.

0:65 to 0:75: The organizer will summarize the selection criteria that emerged during the session, possibly taking straw votes on issues where alternative approaches have been suggested.

3. EXPECTATIONS
The audience might include anyone at SIGCSE, especially anyone who has submitted papers to SIGCSE or other CS education conferences. Everyone likes talking about awards and recognition, so the consideration of particular papers will likely be a draw.

4. SUITABILITY FOR A SPECIAL SESSION
We propose this as a special session because of its high degree of audience participation and the potential open-endedness of the discussion. It would not be impossible as a panel, but under the typical panel format there are fewer invited panelists, the panelists are eager to take up most of the time, and audience participation is typically relegated to a few minutes at the end.