Reflections on 10 Years of Educators’ Symposia

Edward F. Gehringer
North Carolina State University
Raleigh, NC 27695-7911
efg@ncsu.edu

Mary Lynn Manns
University of North Carolina at Asheville
Asheville, NC 28804-8507
manns@unca.edu

Rick Mercer
University of Arizona
Tucson, AZ 85721-0077
mercer@cs.arizona.edu

Joseph Bergin
Pace University
New York, NY 10038
berginf@pace.edu

Abstract

This year marks the 10th consecutive OOPSLA Educators’ Symposium. In the beginning, Educators’ Symposia were organized rather like technical conferences, with invited talks and contributed papers. More recently, they have evolved to a participatory format, with poster and demonstration sessions, and design exercises. The panelists, who have attended all ten symposia, will reminisce on these symposia by considering the topics, the opinions, the debates, the people, and the hype. We will connect with happenings in other parts of the OOPSLA conference and the trends of OO education in industry and academia.

A Brief History of the Educators’ Symposium

1992: The Educators’ Symposium began with OOPSLA ’92 in Vancouver, in an era where o-o was rapidly spreading in industry, but was rarely a requirement in academic programs in computer science. Co-chaired by Jim Heliotis and Mary Beth Rosson, it began with Linda Northrop’s keynote, offering that o-o was the current best way to engineer software, but would only last until the next wave hit the shore. The leadoff technical presentation was a talk by Wilf Lalonde on Carelton University’s Smalltalk-based programming curriculum. In the first of his several presentations on innovative curricula, Mahesh Dodani of the University of Iowa spoke on building a software-engineering program with significant industrial support. David West reported on the largest graduate software-engineering program in the US. 1992 also marked the first presentation by ten-year attender Joe Bergin. It concluded with a panel discussion on issues of broad interest to educators teaching o-o. Rich Decker plugged the o-o book he was writing with Stu Hirschfield as Stu was on the panel. This was to be one of the first CS1 books that attempted to be OO.

The first Educators’ Symposium was also the most competitive, with an acceptance ratio of 18.3% (nine acceptances from a total of 45 paper proposals and four demonstration proposals). About 120 people attended, many of them from industry. Rick Mercer observed, “There may have been many industry folks, but the focus seemed to be more on the academic side of things. I remember one attendee who stated he was from the business world and thought the symposium was to be about persistence (which we didn’t talk about).”

1993: Desmond D’Souza headlined the 1993 symposium with a presentation on transitioning education to OO. Also noteworthy was a demonstration by Maximo Prieto and Carmen Leonardi on learning OO concepts using multimedia tech-
ology. Ten-year attendee Ed Gehringer made his first presentation. Attendees, many of them unregistered, packed the Washington Hilton’s Map Room to overflowing, leading to a mid-session call to clear the room so that the staff could check badges.

1994: Linda Northrop, who co-chaired the ’93 symposium with Heliotis, also chaired the ’94 symposium in Portland. The first invited talk saw Tim Budd expounding on Little Smalltalk. Linda made it a point to make the symposium half academic and half industrial, with a morning session on OO in the university and an afternoon session on OO in industry. Many of the academics thought she was crazy for including “industry” people, but she turned out to be right, of course. The symposium continued to attract new people; when asked if they had been at last year’s symposium, only about 6 attendees raised their hands. For the 3rd year in a row, Mahesh Dodani gave a detailed talk on curriculum design. Owen Astrachan told how he used simulation in an objects-early approach to CS1 and CS2. He noted that others were doing OOP in the first year and books were being written.

Brook Conner gave a talk about their approach at Brown University to teaching object-oriented programming. Their approach was more advanced than other schools, presenting topics such as inheritance and classes at the beginning. Students were implementing games such as Tetris using their graphics library. They wrote a fine book based on their course, but it was never adopted anywhere else, probably because the language it used was Turbo Pascal.

1995: The 1995 symposium in Austin, also chaired by Northrop, saw invited talks by Alan McKean on teaching with stereotypes and by Karel the Robot originator Richard Pattis on OOP in CS1. By now, there had been several presentations using Microworlds—Rich Pattis at CMU and Maximo Prieto, et al. But more was to come with Adele Goldberg in Atlanta.

Ed Gehringer and Mary Lynn Manns reported that C++ was the language most desired by employers, besting Smalltalk by a 4.4-to-4.1 margin (on a scale of 5). Again there were separate sessions on OO in academia and OO in industry, with a panel on bridging the gap between industry and academia. This may have been Linda’s most enduring legacy in the symposium; she once told Rick Mercer she was proud of this innovation. Several attendees had 10-year “perfect attendance” ribbons for OOPSLA in the Educators’ Symposium’s 4th year.

Linda Northrop, chairing the Educators’ Symposium and the following year’s OOPSLA workshops, encouraged educators to submit workshop proposals as part of the general OOPSLA program. This began a tradition of education-oriented workshops on the first day of the conference, preceding the Educators’ Symposium.

1996: Mahesh Dodani, now directing IBM’s Object Technology University, was at the helm for the next two symposia. In 1996 in San Jose, John Pugh gave a memorable keynote on his experiences teaching OO in academia (Carleton University) and industry (as the founder of The Object People). Ten-year attendee Rick Mercer made his first presentation. There were no papers on Java, but it drew mentions by several speakers, including Richard Wiener, who reported during the closing panel session that 70 schools had already adopted it for CS 1, vs. the approximately 150 that taught C++.

It should be noted that Pugh’s company was now promoting Java instead of Smalltalk. This was an interesting shift. Just as C++ had gotten big and Smalltalkers were hanging tough, along came Java. And John was talking Java, not Smalltalk.

Bruce Anderson drove the audience crazy with his duck call to get our attention. (Editorial note: Industrial trainers seem to be able to do silly things more easily than academics. I [Rick] would think this should be the other way around.)
Educator Workshop Reports became part of the Educators’ Symposium. Such reports became a staple of the symposium for the next several years.

1997: Alistair Cockburn was the keynote speaker for the 1997 symposium in Atlanta. His talk on Humans and Technology included design exercises, which started an Educators’ Symposium tradition. This work came out of the OOPSLA 96 Workshop “Teaching and Learning Object Design in the First Year,” chaired by Mercer, Clancy, Duvall, and Biddle.

Instead of giving prepared talks, the paper authors were put on panels, so that more could speak. This made room for 11 contributed presentations, as well as two 45-minute invited talks. Smalltalk luminary Adele Goldberg was the second invited speaker; her talk covered microworlds technology for education, with her company’s LearningWorks as an example. But it was only tenuously related to OO. The final session was to involve breaking the participants into groups to prepare recommendations for OO education and training. Though it never really got off the ground, it served as inspiration for the audience-participation activities at later symposia.

1998: Nineteen ninety-eight brought the symposium back to Vancouver. It was the first of two symposia chaired by Mary Lynn Manns. It was the only symposium that began with an invited panel rather than an invited talk—“how well I remember because it was so darn hard to get them,” Manns recalls. The contributed presentations followed. As Manns reported, there were a lot of good paper submissions; “the review process didn’t weed them out,” so the symposium ended up with 18 presentations! Seven of them were in a session on workshop reports, focusing on other OO training activities. Mahesh Dodani wrapped up the symposium with an audience-participation exercise on Facilitation Techniques for OO Education and Training.

1999: The Denver symposium witnessed the first ES poster session; many good resources were represented, allowing the audience a chance to interact with the presenters. Attendees were asked to find two other people with whom they could cooperate on future projects. There was an invited talk and 10 other contributed talks as well. The wrapup was a project retrospective session led by Norm Kerth. Though the exercise itself had little to do with programming, it allowed educators to examine how they can help their students analyze the success or failure of a project. It was very popular with the attendees. As Rick says, “Such activities are a big reason I go to OOPSLA and the educator’s symposium. I feel like I get lots of information from the industry perspective. Norm’s activity gave me tremendous insight. I bring such things back into the classroom.”

2000: Jutta Eckstein chaired her first ES at OOPSLA 2000 in Minneapolis. Kent Beck led it off with a talk entitled, Educating for Change. Especially well received was an invited presentation by Ken Auer and 20-year-old Nathaniel Talbott (who had never taken a formal software course) on Apprenticeship in a Software Studio. However, this model requires a student-to-teacher ratio much lower than most university educators can ever dream of. Beck and Auer made it 2½ hours of eXtreme Programming in the symposium, the first time that this concept had played a major role.

Nine contributed papers were presented, and there was also a 35-minute poster/demo session. The final activity was a think-tank design exercise led by John Daniels, where participants worked in small groups to determine an agreed-upon position. Daniels asked attendees to come up with the “five principles that make the OO approach more important and powerful”.

One group argued that the principles did not need to be object-oriented because the question did not ask it. So garbage collection was one of those five (Dave Unger was in this group).
There was much argument and not any finality. It appears that after ten years, we are still at odds. The five principles from the four groups were written up by Jutta in a post-symposium paper.

2001: This year’s symposium continues the trend toward active learning. Ralph Johnson’s demonstration tells how attendees can learn more about design by doing it. Rebecca Wirfs-Brock and Alan McKean lead an activity on looking for abstractions. The afternoon session highlights how to teach collaboration skills, including design exercises, extreme programming, and students working together on industrial projects.

Conclusion

We have come a long way in ten years. At the first symposium, three papers focused on courses using Smalltalk, four on courses using C++, and one on a course in Object Pascal. One multilanguage course included languages such as CLOS and Eiffel. OO design (especially the Booch and CRC-card methodologies) was a hot topic. Patterns were not even mentioned.

Five years later, two papers were devoted to patterns, and several were devoted to methodologies, but there were no clear favorites among languages (one paper described a Java course, one a Java-and-Eiffel course, one on C++, and one on the Squeak dialect of Smalltalk). Among this year’s abstracts, three mention Java, one Smalltalk, and none mention C++. Methodologies are covered in two presentations, and patterns in three. Extreme programming is the topic of one paper and at least one one workshop report.

Who can tell what the next ten years will bring? Fifteen years ago, one would have expected OOPSLA to last this long without splitting into separate constituencies with their own agendas. Will OO become so pervasive that to talk about CS education is to talk about OO? Will there still be a single Educators’ Symposium? Only time will tell, but all of us want to be around as the story unfolds.

And finally, the reason that the four of us keep coming back is that we learn so much from everyone else.