



Taking Your Events to the Next Level with Judging Circles

Jump into the hot tub time machine, pick a year, and type in *elementary school science fair*.

Hope you brought a book.

You find yourself in a school gymnasium full of nervous students each standing in front of their table-top displays anxiously awaiting (...and awaiting...and awaiting) or dreading the arrival of judges who will finally ask them about the projects in which they've invested thought, time, and passion.

Now fast forward to the National Invention Convention and Entrepreneurship Expo (NICEE), 2016. You drop your book as you look out over a mixed group of students and judges interacting with each other in a venue full of tables, separated into U-shaped configurations.

Welcome to an Invention Convention using Judging Circles for its judging process.

What are Judging Circles?

The Judging Circle is a fast-emerging peer-review style in student competitions for interviewing and discussing student projects. At its core, the Judging Circle brings a small group of students together to pitch and query each other, facilitated by the adult judges.

A floor plan for a competition outfitted with Judging Circles is quite different from the usual rows of tables lined up end to end. A Judging Circle floor plan instead calls for a full venue of U-shaped table setups that help streamline judging, foster peer review, and boost overall engagement. (See Figure 1). These will replace the old-school lines of tables that often stretched to cover the length of the venue with students and their projects on each side and back-to-back for the duration.



Figure 1: A venue being prepared for Judging Circles.

Students and judges are assigned to a numbered Judging Circle before the event, based on their registration data. Up to 10 students and up to 3 judges are assigned to each judging circle. For the duration of the judging, the students and judges interact in almost a campfire-type fashion, with each student taking their turn to explain their project to other kids in the circle, and the judges prompting and leading the discussion as appropriate.

Why Judging Circles?

While you might expect the value at an invention event to come solely from the display-based projects of students, using the innovation-spurred Judging Circle style delivers great additional benefits to young problems solvers and entrepreneur participants.

1. **Greater participation through peer review.** The Judging Circles engage kids during the full time of the judging period in a way not encountered with traditional judging (where a judge visits each kid for just a few moments).

Judging Circles fill the heads and backpacks of the youthful participants with precious feedback from peers, with gained experience in collaboration, with increased comfort in presenting their works to an audience, and with a higher level of engagement missing from the marathon-like, stand-around events of the past.

2. **Greater comfort with the judging process.** Instead of feeling confronted by adult judges, students in Judging Circles are surrounded by their peers. Discussion is amongst their age group, with the adults merely moving the conversation along. Judges get what they need, and students feel less like they are being judged. Since kids can go first if they want, or later if they choose, no one feels pressured.
3. **Decreased boredom.** In the not-too-distant past, students exhibiting at similar events had to wait for extended periods alone until a team of judges descended on his or her location, asked questions, and proceeded to the next contestant in line. Students typically felt bored stiff, except for those few minutes when they had their quick visit by the judges. With Judging Circles, students are engaged with students and judges 100% of the time. Say goodbye to boredom.
4. **Decreased noise levels.** When students are standing around waiting to be judged, they do what all students do....talk! So the ambient noise levels are considerably higher in traditional judging approaches. With Judging Circles, only one kid in a circle is talking at any one time, dropping the ambient noise level ten-fold.

A populated venue using Judging Circles is shown in Figure 2.



Figure 2: A fully-populated venue of Judging Circles.

What to Expect

The first annual National Invention Convention, to be held May 20-21, 2016, at the USPTO headquarters in Washington, D.C., will implement the Judging Circles approach to student event evaluation made popular by the Connecticut Invention Convention (CIC)¹ – which has used Judging Circles dating back to the late 1980s.

To enable this enlightened style of judging, about 120 separate 8' tables will be placed into 30 U-shaped circles, with two tables across the back and one on each side. Circles are populated with students, starting with the lowest grade at Circle 1, on up to the higher grade at the last circle. Each circle contains either same-grade students or, in some instances, a mix of participants from contiguous grades (e.g., three third graders and seven fourth graders) when you move from one grade to another sequentially.

“With the traditional approach to judging, there are long waits between judges’ visits, which everyone hated,” explains Danny Briere, CEO of The STEMIE Coalition. ***“And having four judges arrive at once for a student seemed just a bit intimidating. Judging Circles fosters collaboration between participants and is a better use of judges.”***

Now, three judges are assigned to each circle of 8-10 kids. Judges will score each student’s presentation. As for timing guidance, judges are advised:

- *The goal is to finish within 60 to 90 minutes.*
- *Try for 8 to 10 minutes per child.*
- *Devote approximately the same time to each child*
- *Plan ahead and keep on time.*
- *If you run late, that’s OK – make sure all students receive equal attention.*

Students decide who amongst them will go first, and so on, to establish the order of judging. There are always kids in any group who are dying to go first, and ones who would prefer to go last. Kids are encouraged to pitch for about four minutes. Time between student pitches is used to spur question-and-answer-type interactions amongst the kids in the circle, which can provide an event full of engagement for participants and experience in presenting their invention projects.

Discussing with each entrant what they might have missed or what they could do better is emphasized. Past practices of providing feedback are seen as being too critical, focusing on shortcomings instead of addressing challenges.

¹ www.ctinventionconvention.org

Adding Value

With the Judging Circle style, judges are instructed to ask questions that provide additional information and context while getting students to think about important aspects of their invention efforts. Questions such as “What would you have done if you had additional time?” and “What did you encounter in your efforts that you didn’t expect and/or created additional challenges?” are added to staples that focus on how the student became interested in conceiving and creating an invention. Judges can encourage kids to ask questions of individuals too.

Judges then rate each participant based on pre-established and explained criteria.

“This approach fosters collaboration between students that didn’t exist using past approaches,” adds Briere. “Otherwise you’re dealing with a golden missed opportunity to add value to the experience by elevating engagement.”

Judges will remain behind to review log books and finalize their scores. From the outset, the young inventors are advised to keep an Inventor’s Log that contains regular entries for reference and reflection as they proceed down the path to invention. The belief is that knowing where you have been is just as valuable as knowing where you are headed. Log books are also handy when defending your intellectual property rights down the road.

Continuing Education

Students have more learning to do after their Judging Circle experience. To broaden the educational experience received through Judging Circles, time is set aside – a public viewing period – so that participating students can visit other students and their inventions, likely expanding their view of the invention being explored to address a wide array of challenges. They can also spend time with their friends and family members.



Figure 3: Students watching an inventor pitch in a Judging Circle

Advance Planning Required

The use of Judging Circles requires extra planning and flexibility on the day of the event.

Event organizers need to communicate to students what Judging Circle they are in. At the Connecticut Invention Convention, students pick up their registration/entrant packages at the start of the event. They contain, among other items, the number of the Judging Circle they are assigned to which is printed on the label on the event package. (See Figure 4).



Figure 4: A volunteer showing a parent and student their Judging Circle number

Each student has the same amount of space for their display-based invention project at the Judging Circle, with extra room left in case of oversized ones. Typically, three projects can fit on the sides of the “U,” with four projects across the back.

Advanced planning and preparation of event judges is another critical element in Judging Circles. The tradeoff associated with using the Judging Circles approach is that it usually requires more judges than traditional judging approaches. On the plus side, however, the judges add value by providing their take on how students can solve problems (that’s often beyond simply asking questions about the participant’s projects).

Handling Judges

With a target need of roughly 400 judges for its state finals for the Connecticut Invention Convention, the CIC recruited 440, planning in advance for the likelihood that some of the volunteer group would run into scheduling conflicts and not be able to attend the event, according to CIC Board Member Sonya Richmond, who also serves as grants officer at Goodwin College in Connecticut. Planning for 10%-15% more than is needed is a wise practice. No-shows can mean shifting judges around at the last minute to make sure you have at least three per circle.

The CIC has met the challenge of managing large judging groups by creating special software that Richmond says allow her crew to be “highly nimble in assigning judges,” and quick in handing expected

judges who are no-shows for the event. “We push one button and reassign any open judges open slots and publish the assignments for all to see.”

Judges go through an hour of training the morning of the Connecticut Invention Convention. Past, experienced judges can skip this newbie training. The CIC mixes experienced and novice judges as a practice when manning Judging Circles, says Richmond. “Our judges are experts in the fields of engineering, patent law, and the sciences, but some of them are judging for the first time, and it helps to know there is someone else who has done it before.”

Learning to Talk

What combination of skills and approaches makes the best judges for Judging Circles?

“Perhaps the most important attribute is for judges to be very experienced in talking to kids,” says Richmond. “We specifically coach judges to make kids comfortable.” Since many judges are parents themselves, this can come naturally to some, but not everyone.



Figure 5: Judges listen attentively to a presentation of an inventor

Full Circle

Invention competition organizers can apply Judging Circles in different ways. One can have Judging Circles by grade, by category (such as energy, transportation, etc.), or have the entire convention focus on a single theme.

In the end, the benefits of the Judging Circle style for the interviewing and discussion of the invention and inventing process are many, and stand in stark contrast to older, more traditional methods long used to judge scholastic events.

More effective use of judging resources, engaging peer review and collaboration, and better prepared participants collectively make Judging Circle-based invention conventions less time-consuming, super charge interaction, and result in a far more engaging event for all involved.