Q. How do your respective countries of study tackle education funding to support professional learning?

Ann McIntyre: One of the key features of the high-performing systems that we studied was the provision of ongoing learning opportunities for teachers to continually improve their practice and to share their expertise. In New South Wales, our teachers highlight the benefit of professional learning that includes planning, teaching and assessing student work together. Processes such as these involve funding and teacher time. At a fundamental level the provision of government funding for ongoing teacher professional learning requires an understanding of the almost symbiotic relationship between professional learning and continuous school improvement. It also requires a commitment to supporting teacher inquiry to enable improved student success as teachers consider what they need to learn to improve the learning of their students. As a profession, it is important that we develop and maintain systems to demonstrate the evidence of the impact of our learning on our teaching practice and how this influences the learning of our students. Advocacy for the funding of teacher professional learning requires this foundation.

Misty Sato: Funding for schools was decentralized in the 1986 Compulsory Education Law, establishing education financing in China across the national, provincial, county, and local township levels. In 2012 only 17.2% of China’s total education budget was from the central government with the rest from local funds. Like in the U.S., the rest of the education funding is raised through local taxes and levies as well as donations, local fundraising efforts and loans. In terms of GDP, China spends less on education than other OECD countries. For example, in 2011, China spent 3.9% of its GDP on education as compared to the OECD average of 6.2%, and China has had a steep investment curve in education since about 2002 so this percentage has risen over time. The per-student spending in China is much lower than the OECD average. I do not have specific information about how much of this education funding is targeted toward professional learning for teachers. It was noticeable, however, that teacher professional learning was not a marketplace activity in China. In other words, private or corporate vendors and external consultants are not a large part of the expenditures for teacher professional learning like we see in the United States. The workshops are district and school sponsored, sometimes with higher education partners and of course, much of the learning is job-embedded.
Q. Collaboration would seem to require and produce specific types of collegial relationships. Can you discuss the differences in the relationships of teachers to one another in your respective countries of study?

Ann McIntyre: At a fundamental level collegial relationships founded on shared purpose, respect and trust, thrive. It is vitally important that the policies that shape the work of teachers support teacher collaboration both within and between schools. Collaboration, not competition, is the key to excellence within our profession. There are two main points of policy leverage that support these practices in Australia. The first is that the professional practices articulated within the Australian Professional Teaching Standards are founded on collaborative learning. The second is that teacher collaboration underpins both the Teacher Performance and Development Framework and the Australian Charter for the Professional Learning of Teachers and School Leaders. Through the implementation of these frameworks, teaching expertise and teacher collaboration are required for both career path progression and increased remuneration.

Misty Sato: Teaching is viewed as a collective activity in China. Other researchers have documented and characterized this. For example, Lynn Pain and Li Ping Ma wrote about teaching in China as a collective activity. I was struck by two concepts that they wrote about and I observed myself. First, the responsibility that teachers feel for each other in China that is part of the mentoring process.

"Central to this notion of lao dai qing is the idea of connectedness: The old and young are connected. Their connection comes through knowledge of and skill in teaching (as well as a commitment to that practice). In this we see a glimpse of a shared collectivist orientation. At the same time, there is an expectation of difference: that the older teachers, the lao, have something to offer the young, the qing." (Paine & Ma, 1993)

And second, the professional respect and leadership that is afforded to teachers who are viewed as masters or as accomplished, but in Paine and Ma's description, are not viewed as "teachers at the top."

"Featuring Chinese teachers' working together, it is easy for one to see that they do not work in a democratic way. The principle of one person, one vote is not applied there. However, it seems not to be a static hierarchy either. A teaching research group leader or a backbone teacher does not have any legal authority. Their prestige does not allow them to dictate what another teacher must do. Such a teacher is considered an expert rather than a leader. Others will take advantage of their expertise as resources, rather than be passively directed by another teacher. The experts are at the center of an eddy rather than at the top of a ladder." (p. 689)

For a more extensive discussion on this from my perspective, you can read this NCEE blog post on the public nature of teaching in Shanghai and the private practice of U.S. teachers.
Q. What are your thoughts on leveraging technology to help manage professional learning? (Video observation, platforms that support collaboration, etc.)

*Ann McIntyre*: We have been talking about the importance of teacher collaboration. In Australia and in New South Wales many teachers work in rural and remote locations. In New South Wales over a third of the 2,220 government schools are small rural schools and technology enables a link from teacher isolation to collaboration. Both students and teachers access learning through IT and pre-service and early career teachers stream lessons for observation. Teachers are increasingly using IT to record and seek feedback on evidence of practice. Technology provides wonderful opportunities for us to connect and learn from each other. During the Empowered Educators webinar, I was sitting with my laptop at our kitchen table in Sydney Australia connecting with you. It was predawn but I still thought it was pretty awesome!

*Misty Sato*: I am curious to follow up in Shanghai about the use of video in teacher collaboration. The demonstration lessons I observed were recorded on video, but I am not sure how the video is used for teacher development in Shanghai. I can offer from my experience in working with teachers pursuing National Board Certification in the US and pre-service teachers completing the edTPA that video analysis among groups of teacher talking about classroom instruction using a set of performance standards as a framework for identifying strengths and areas for improvement is one of the most powerful teacher development processes I have witnessed. These can be done face-to-face and via platforms that allow video tagging and commenting in asynchronous environments.

*Josh Starr*: Tech can work to share and organize documents, schedule meetings, etc. but nothing can replace face-to-face interaction. I’m a big fan of collectively reviewing videos of teachers; it can be eye-opening.

*Roger King*: We use technology often in our professional learning which range from 1 hour-long sessions to all day. These might include: question and answer sessions, planning conversations, topic specific sessions, grade level meetings, data analysis, model instruction, and regular district check-in meetings. Almost all of our implementation plans include virtual learning hours. Also, we typically use Zoom and GoogleDocs or Google folders. We find technology allows us to have more frequent touches, timely conversations, build relationships as well as be responsive without having to wait for an opportunity to fly.

Q. Can you share a little about the level of training provided to those who coach new/beginning teachers? What are some essential skills to develop in them in order to begin this important mentoring work?

*Ann McIntyre*: Teacher leadership is a vitally important part of the teaching quality puzzle. In my research with 750 highly accomplished teachers in New South Wales the value of leading the professional learning of other teachers was also seen to be a great source of learning for the experienced teacher. In terms of essential skills, I think that knowing how to critically reflect on your own practice to gain feedback on the impact of your teaching is an important precondition for leading the learning of others. It is also...
important that the highly accomplished teacher has a good understanding of the principles of effective professional learning. The capacity to provide guidance through constructive feedback is also critical. Early career teachers describe the importance of knowing the accomplished teacher is credible and can demonstrate effective teaching practice. In New South Wales, highly accomplished teachers are required to demonstrate the professional standards of this level of practice. This includes highly accomplished teaching as well as providing evidence of leading the professional learning of others. These teachers maintain accreditation at this level through ongoing professional learning and receive higher remuneration for their role in supporting the learning of other teachers.

**Misty Sato:** One of the key attributes in Shanghai is that the teachers supporting other teachers have been identified as master teachers. This is based on advancement on the career ladder so the teachers have demonstrated their teaching in demonstration lessons, have had success with their students, and have conducted research to improve their practices.

I think we can turn to some strong practices in the U.S. if we are looking for specific kinds of mentoring skills to use in a U.S. context. Many (but not all) districts have developed mentoring programs and have identified core characteristics of programs and mentors. For example, here in Minnesota, [Bloomington Public Schools](https://www.bloomington.k12.mn.us/) has a very successful mentoring program and nationally, the [New Teacher Center](https://www.newteachercenter.org/) has identified core characteristics for successful programming in the United States.

The policy issue in the U.S. is that mentoring beginning teachers is not a systemic expectation; All states do not have a policy about mentoring beginning teachers or guidelines for how to afford teachers the opportunity for mentoring. This is the case in Minnesota. Bloomington sets that expectation as a district, but without a statewide policy, teachers in other districts might get a "buddy" or might not get anything as they begin their careers.

**Josh Starr:** For those who coach new or beginning teachers, training in great teaching and learning is important, e.g., equity-based practices, rigor, engagement and coaching—especially culturally-competent coaching.