

# Blended Learning for Medical Professionals

## Gaining Clinical Research Skills in the Digital Age

**Ajay K. Singh**

*Associate dean for global and continuing education at Harvard Medical School*

**I**N MY 16 YEARS AS A PRACTICING PHYSICIAN, faculty member, educator and associate dean at Harvard Medical School, I have spent significant time contemplating how to balance the many competing demands of my busy professional life while challenging myself to seek out new skills and training opportunities that would help advance my career to the next level. I have also struggled with personal and professional choices as the needs of my laboratory, my clinic, my hospital department, Harvard Medical School and those of my growing family have often conflicted. Adding courses and trainings to the mix very often seemed impossible. Learning the skills to become a leader in the clinic and in research previously required enrollment in a residential master's or PhD program—a daunting prospect for me and for most mid-level academic physicians. And the sheer costs of such programs were often prohibitive.

### **Making Time for Training**

Today, I find that I am spending more time advising and mentoring others on the importance of life-long learning for one's professional growth. To be a leader, I steadfastly believe that one must make the time for and be personally committed to continuous professional training. Yet, given my own experience, I acknowledge the challenges of residential programs that require promising trainees to give up or further delay equally important professional and personal experiences.

Technology that uses the Internet to blend online instruction with live teaching, however, has been transformative in providing highly effective, engaging and accessible options to colleagues. These programs have allowed physicians from around the world to participate in and benefit from master's level teaching and to be a part of a global community of learners.

### **A Blended Learning Experiment**

The term “blended” is frequently used interchangeably with “hybrid,” “web-enhanced” or “mixed-mode” teaching. In an influential article, Garrison and Kanuka<sup>1</sup> argue that blending “asynchronous Internet communication technology” into live teaching serves to “facilitate a simultaneous independent and collaborative learning experience.” With this pedagogical model at its core, the HMS Office for Global Education pioneered a program in 2012 that tested the effectiveness of a blended approach to build both clinical research knowledge and hands-on skills for a global community

**By uniquely combining a wide range of off-the-shelf software programs, our office created an educational technology package to effectively facilitate distance learning. This online programming was combined with in-person workshops for skill enhancement in London and Boston.**

of participants. We developed a one-year blended learning program entitled the Global Clinical Scholars Research Training Program (GCSRT). By uniquely combining a wide range of off-the-shelf software programs, our office created an educational technology package to effectively facilitate distance learning. This online programming was combined with in-person workshops for skill advancement in London and Boston. Additionally, team projects, joint presentations and individual capstone projects provided for objective and verifiable assessments.

During the two, separate one-year program cycles conducted to date, the GCSRT program has enrolled a total of 338 candidates from more than 60 countries. One-third of the students were from the United States, one-third from Europe and one-third



**HARVARD**  
MEDICAL SCHOOL

OFFICE FOR  
**EXTERNAL EDUCATION**

**WEB:** [externaled.hms.harvard.edu](http://externaled.hms.harvard.edu)  
**EMAIL:** [external\\_education@hms.harvard.edu](mailto:external_education@hms.harvard.edu)  
**PHONE:** 617.432.7769

from other countries. Since enrolled students were required to have a doctoral degree, approximately 90 percent of past participants had either an MD or MBBS degree. The remainder, approximately 10 percent, had PhD, DDS or PharmD degrees. The majority of program participants, 80 percent, held residency or faculty positions, and the remaining 20 percent were medical trainees.

Faculty from Harvard Medical School, Harvard School of Public Health (now the Harvard T.H. Chan School of Public Health), Harvard Business School and other leading U.S. and international academic institutions participated as lecturers, which created a program that was uniquely cross-disciplinary in its instructional approach.

### Program Strengths

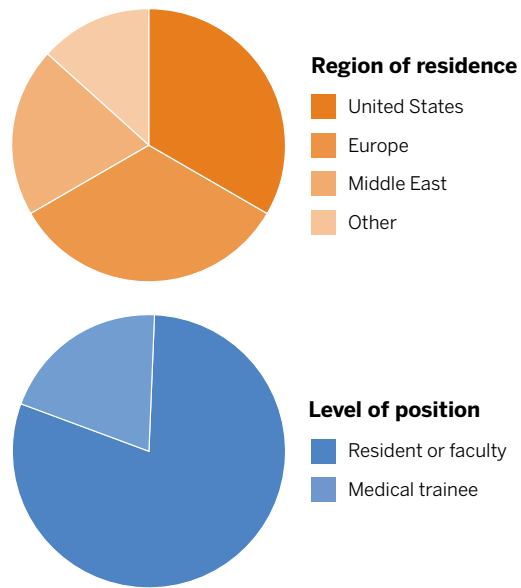
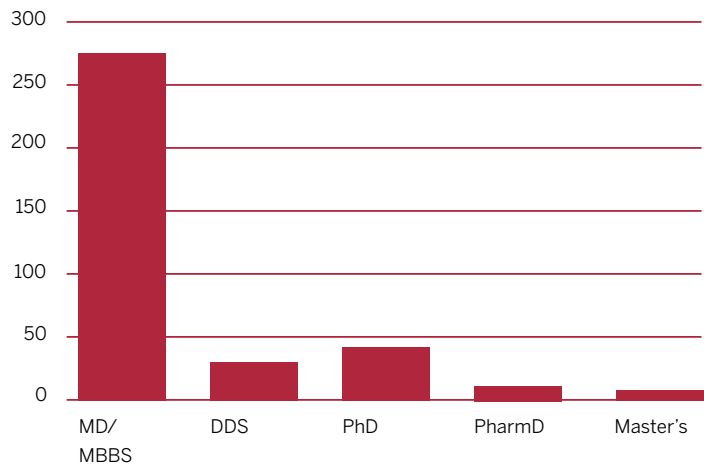
Students rated course content and teaching strategies very positively. The importance of gaining skills in a blended setting was stated as a key differentiator between GCSRT and other programs. The blended format, while still challenging, provided enough flexibility to fit into the multiple demands on a busy professional's time. Students identified major program strengths as the opportunity for mentorship with Harvard faculty and the opportunity to work with international peers, with whom many have gone on to develop enduring professional relationships. Formal assessment of students showed significant improvement in both individual skills and knowledge. Many students successfully obtained funding for their capstone research proposals. Sponsoring international organizations indicated that the program similarly improved regional research capacity.

Our experiences with the GCSRT program and the pilot data we gathered show that the uniquely flexible, yet technologically rich format can be successful in bringing together learners from across the world, delivering skills and knowledge to benefit individual career trajectories, and beginning to successfully address the growing demand for quality training in clinical research and other subject areas to an increasingly interconnected global community.

### Meeting Future Needs

So where are we heading? We believe that early data supports applying this successful model to a number of different areas in biomedical science. On the clinical end of the spectrum, we are developing maintenance of certification programs for practicing physicians; on the translational research side, we are developing programs in cancer biology

### Degrees held by participants



**Figure 1.** Demographic information of participants enrolled in the 2014–2015 GCSRT program.

and therapeutics. Blended learning as a pedagogic model has wide applicability and has the potential to transform medical education. We intend to foster continual professional growth by creating a global classroom of lifelong learners.

For GCSRT program information visit: <http://hms.harvard.edu/GCSRT>

### References

<sup>1</sup> Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7, 95–105.