Approved by the Regents May 15, 2014

PROMOTION RECOMMENDATION
The University of Michigan
School of Education
School of Information

Barry J. Fishman, associate professor of education, with tenure, School of Education, and associate professor of information, without tenure, School of Information, is recommended for promotion to professor of education, with tenure, School of Education, and professor of information, without tenure, School of Information.

Academic Degrees:

Ph.D.	1996	Northwestern University, Education and Social Policy – Learning Sciences Evanston, IL
M.S.	1992	Indiana University, Instructional Systems Technology, Bloomington
A.B.	1989	Brown University, English and American Literature, Providence, RI

Professional Experience:

2004-present	Associate Professor (with tenure), Educational Studies, School of Education, University of Michigan
2006-present	Associate Professor (without tenure), Learning Technologies, School of Information, University of Michigan
2007-2008	Visiting Associate Professor, Graduate School of Education, Harvard University
1997-2004	Assistant Professor, Educational Studies, School of Education, University of Michigan
1996-1997	Research Scientist, School of Education and Social Policy, Northwestern University

Summary of Evaluation:

Teaching: Professor Fishman is an excellent teacher who has designed and taught a range of creative, engaging, and popular graduate and undergraduate courses focused on learning technologies, digital media, and gaming. These courses consistently draw students from the School of Education, the School of Information, and from across the campus. His teaching evaluation ratings are very strong, ranging from 4.20 to 4.97 on course quality for courses he teaches regularly, and from 4.36 to 5.00 for these same courses on instructional quality. These ratings also include four semesters of 4.86 or higher for his innovative course on gaming; this is particularly noteworthy given that the course is taken primarily by undergraduate students.

Professor Fishman is also a strong and accessible mentor. Since his last review, he has served as the formal advisor for ten doctoral students and in an advising capacity for an additional twelve students. Across levels of study, student comments speak to Professor Fishman's passion for teaching, his innovative and engaging course activities, and his accessibility.

Research: Professor Fishman's scholarship is situated in the learning sciences and focuses on the design, development, and implementation of technologies as key components of transformative environments for the improvement of teaching and learning. This work is concentrated in two areas: (a) research on teacher learning and (b) research on the design and study of usable innovations through design-based implementation research, which is an expansion of an existing research methodology—design-based research—that has been championed by Professor Fishman.

Professor Fishman is articulate about the role of technology in his work. He contends that the role of

his work is to understand the "effects with" technology, not the "effects of" technology. This approach supports his choice to seek a variety of research contexts for his work, and to conduct research studies that are necessarily highly collaborative.

Professor Fishman's research trajectory is clear and sustained. Early on, his work was a part of a strong collaborative partnership within the Center for Learning Technologies in Urban Schools (LeTUS). This partnership led to several subsequent projects of his own design, including the Knowledge Networks on the Web (KNOW) project, the Assessment to Instruction (A2i) project, and the Impact of Online Professional Development (IOPD) project. Throughout, Professor Fishman's research has remained focused on the teacher learning side of learning technologies, with important impact.

Professor Fishman is a productive scholar, particularly since his last review. He has authored or co-authored 36 refereed publications with at least seven of these appearing in top tier journals. He has contributed to 15 book chapters. In addition, he has served as a co-principal investigator or a principal investigator on $11 million in external research funds.

Several areas of Professor Fishman's scholarship are particularly noteworthy. The success of his efforts to investigate the relationships among teacher knowledge and beliefs, classroom practice, and student learning sets his scholarship apart from numerous other studies that explore only a subset of these relationships. This scholarship has the potential to advance the work of a field that is seeking models of inquiry specific to educational innovation that can be brought to scale while maintaining rigor.

A second important intellectual contribution is in the expansion of design-based research into the new area of design-based implementation research. This approach represents a significant expansion of design research, which typically focuses on classrooms, to develop and test innovations that foster alignment and coordination of supports for improving teaching and learning in classrooms. Design-based implementation research combines the grounded and iterative approach of design-based research with the systems-level focus of policy researchers who study implementation and issues of coordination, alignment, and leadership practices that relate to program success.

Given the nature and scope of his scholarship, Professor Fishman has been asked to serve as a consultant on two technical working groups specific to technology and teacher learning for the U.S. Department of Education. He was also one of the lead authors of the 2010 U.S. National Educational Technology Plan.

Professor Fishman's authorship role is characteristic of a scholar in the learning sciences community; due to the interdisciplinary nature of his research, the preponderance of his writing is co-authored. However, Professor Fishman's intellectual contributions and leadership in these collaborative projects are evident. He is clearly acknowledged to be a thought leader in the learning sciences; his influence has come through his publications, his editorship of the leading journal of the learning sciences, and his prestigious national service.

Recent and Significant Publications:

Fishman, B., Konstantopoulos, S., Kubitskey, B., Vath, R., Park, G., Johnson, H., & Edelson, D. (in press). Comparing the impact of online and face-to-face professional development in the context of curriculum implementation. *Journal of Teacher Education.*

Penuel, W. R., & Fishman, B. (2012). Large-scale science education intervention research we can use. *Journal of Research in Science Teaching, 49*(3), 281-304.
Fishman, B.J., Penuel, W. R., Hegedus, S., & Roschelle, J. (2011). What happens when the research ends? Factors related to the sustainability of a technology-infused mathematics curriculum. *Journal of Computers in Mathematics and Science Teaching*, 30(4), 329-353.
Penuel, W. R., Fishman, B., Cheng, B. H., & Sabelli, N. (2011). Organizing research and development at the intersection of learning, implementation, and design. *Educational Researcher*, 40(7), 331-337.
Penuel, W. R., Fishman, B., Gallagher, L., Korbak, C., & Lopez-Prado, B. (2009). Is alignment enough? Investigating the effects of state policies and professional development on science curriculum implementation. *Science Education*, 93(4), 656-677.
Penuel, W. R., Fishman, B., Yamaguchi, R., & Gallagher, L. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal, 44*(4), 921-958.
Connor, C. M., Morrison, F. J., Fishman, B., Schatschneider, C., & Underwood, P. (2007, January 26). Algorithm-guided individualized instruction. *SCIENCE*, 315, 464-465.
Fishman, B., Marx, R., Blumenfeld, P., Krajcik, J. S., & Soloway, E. (2004). Creating a framework for research on systemic technology innovations. *Journal of the Learning Sciences, 13*(1), 43-76.

Service: Professor Fishman has demonstrated strong professional service that is appropriate for his rank and time in career, particularly with national and professional organizations. He served for seven years as an associate editor of the *Journal of Learning Sciences*, the most highly regarded journal in his disciplinary area of the learning sciences. In addition, he has served his field through various other roles for the International Society of the Learning Sciences. Other noteworthy national-level service includes membership on the panel charged with drafting the United States' National Technology Plan in 2010, and serving as a reviewer for the Institute for Educational Studies (IES). At the school and university level, Professor Fishman has served on the School of Education Executive Committee and as director of the Collaboratory for Advanced Research and Academic Technologies (CARAT) Fellows Program. He has contributed to the development of campus information technology (IT) infrastructure and governance through his activity as associate steward of the Teaching and Learning domain of the IT Council.

External Reviewers:
Reviewer A: "His framing of concerns about 'effects with' rather than 'effects of' technology resonate with the larger interests in socio-technical research at SI. His interests in how teachers utilize knowledge and information in their work is readily transferred to research on how scholars utilize knowledge and information in their work, another area for which SI is well known. The potential is great to apply this body of theory and method for to many fields of endeavor."

Reviewer B: "A number of scholars have raised questions about the relative effectiveness of online and face-to-face PD [professional development] but, to my knowledge, this project is one of a very small number of experimental studies to investigate these questions. As such, it is a major contribution to the field and is particularly timely and important given the press for PD to support implementation of the Common Core State Standards and the Next Generation Science Standards."

Reviewer C: "To summarize, I think offering Barry a tenured professorship in your I school at Michigan is a terrific idea and one that will pay off in many positive ways. Barry is not only an

outstanding researcher, technologist and communicator, but also an outstanding leader and collaborator who stays on top of new ideas and invents them too."

Reviewer D: "In my view, the distinctive features of Dr. Fishman's scholarship are that it is programmatic, conceptually deep, and addresses fundamental issues of the greatest pragmatic significance. ... Dr. Fishman is consciously and explicitly challenging the current established standards for what counts as acceptable work in his research community, thereby reshaping the agenda for his entire field. To say that this is both admirable and courageous is something of an understatement."

Reviewer E: "Both the pace and quality of Dr. Fishman's scholarship are impressive. He is very active in obtaining funding for his research and involves students in his work, preparing the next generation of scholars. Through his activities at conferences attended by practitioners and policymakers, Barry engages in active outreach, important if one's insights are ever to be broadly implemented."

Reviewer F: "Dr. Fishman is currently instrumental in developing thinking and foundational theory for a new methodology called Design-Based Implementation Research that extends the DBR paradigm in a significant way. ... I regard him as one of the top … researchers in the Learning Sciences and on par with other leading researchers of comparable experience in this field."

Reviewer G: "His research program is deep and coherent as he focuses on sustainable change through technology enhanced learning, taking a systemic view in which teacher learning is central."

Reviewer H: "Most noteworthy in his research and development work is his focus on the role that technology can play in teachers' professional development. Barry has not only developed learning technologies, implemented and researched them, but he also continues to conduct excellent studies that measure up to the gold standard of research. ... By focusing on the teacher learning and development, design of technology, and understanding of schools as systems, Dr. Fishman has moved each of these fields forward conceptually and empirically in significant ways."

Reviewer I: "Barry's approach empowers teachers as learners, providing them a combination of information they need when they need it and automation when they need it; I can imagine a similar approach to helping other kinds of on-the-ground and in-the-moment providers learn what they need to take on new responsibilities in their communities."

Reviewer J: "Dr. Fishman is adept at moving back and forth between the concrete details of classroom-based design experiments and conceptual models that provide a frame for organizing these details and deriving implications from them. The Penuel, Fishman et al. Educational Researcher article laying out the core ideas of Design-Based Implementation Research is another very important conceptual piece, in my opinion."

Reviewer K: "Dr. Fishman's mark on the field, his extensive network of collaborators, his contributions to several dimensions of scholarship, and the presence of his articles on syllabi all speak to his eminence as a scholar and a researcher."

Summary of Recommendation: Professor Fishman is a leading scholar with a solid record of obtaining research grants and publishing his work in the top journals in his field. He has demonstrated innovation across several areas of scholarship including the design of technological tools, research studies and research methods, teaching strategies, and course design. Across courses and semesters, Professor Fishman's teaching is regarded as excellent, innovative, and inspirational. His scholarship is contextualized and collaborative, which leads to multiple-authored journal articles and book chapters. Committee members and external reviewers recognized Professor Fishman's significant contributions on fundamental questions in learning technologies and education more generally, including his important work to advance and strengthen the research methods used to design and study emerging innovations. In service, Professor Fishman is a leader in learning technologies who contributes at the department, university, and national levels. It is with the support of the School of Education's and the School of Information's Promotion and Tenure Committees and the School of Education's Executive Committee that we recommend Professor Barry Fishman for promotion to professor of education, with tenure, School of Education, and professor of information, without tenure, School of Information.

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