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The Past, Present, and Future of Educational Psychology: A Discussion with Professor Eric M. Anderman

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Abstract: Focusing on the topic of “The Past, Present and Future of Educational Psychology”, scholars from the Department of Educational Psychology at East China Normal University and Professor Eric Anderman of The Ohio State University reviewed the current trends in educational psychology and discussed the relationship between educational psychology and brain sciences, learning sciences, and other disciplines in the field of education. On this basis, we further reflected on the challenges and opportunities facing educational psychology in the new era, especially in the context of the COVID-19 pandemic. We discussed how educational psychology could promote children and adolescents’ learning and development, how theory and practice could support each other, and how to respond to the needs of future development in society. Finally, Professor Anderman emphasized the importance of interdisciplinary collaboration in the field, and provided his suggestions for the development of educational psychology in China.

Keywords: educational psychology; positioning and development; opportunities and challenges; expectations and recommendations

1. The Positioning and Development of Educational Psychology

Yi Jiang: *In 2016, APA Division 15 sponsored the publication of the third edition of the Handbook of Educational Psychology. You and Prof. Lyn Corno are the lead editors. This is a very important work in the field as the Handbook provides an indispensable reference volume for scholars both in education and the learning sciences. When you were planning this huge project with Prof. Corno, what is your understanding and positioning of educational psychology? Is there a general guideline and overarching structure for the third edition? Are there any changes that you have made in this edition as compared to the previous two editions? And why did you make these changes?*

Anderman: When we were asked to do this and agreed to, we looked at the first two editions. One of the things we noticed was that the second edition was very similar to the first edition. It was all new information and new chapters, but it was essentially the same chapters. It was sort of what have we learned in ten years and so, Lyn and I really thought about that and said, “do we want to make the third edition to follow in this tradition?” Because we will be setting the tone for the future. We did not want it to be an exact repeat because the boundaries of those chapters move over time. So we decided to take a very different approach and organized it into five research domains. I believe that the next edition, which is being worked on now, they are following suit, and they have yet another reconceptualization, which I think is a good thing.

We did not want to make these decisions by ourselves, so we put together an advisory board. The advisory board was a lot of the lead authors in the field—people who publish in the previous edition, but also people who have not, and people who were doing really innovative work. We essentially charged them with looking at the

structure of the previous one and making recommendations for us about should we continue in the same way, or how do you see the field now. They talked to us in quite a bit of depth and really helped us reconceptualize things into five different categories. One of the things that we really wanted to make sure of was that the Handbook is primarily for researchers, but we wanted it also to be a resource for practitioners and particularly important to me is that it would be a resource for policy makers. It has so much important information that can and should guide policy. And policy makers don't necessarily use the same chapter headings that we use in educational psychology or learning sciences. So we decided to organize it the way we did and have sections on *Learner Readiness and Development* and *Learning and Task Environment*, so that people who make policy and people who make curriculum can actually refer to it and say, "Oh, maybe there's something in here" rather than having a chapter called theories of learning. People who do policy do not want to read theory, so it is in there. But it was organized that way both because of where the fields going to not create silos, to not reinforce the silos and also to make it appealing to a wider audience.

Yi Jiang: *The third edition published in 2016 have categorized educational psychology into five research domains: Psychological inquiry in education; Functional processes for learning; Learner readiness and development; Building knowledge and subject matter expertise; The learning and task environment. Can you tell us why you focused on these five research domains? What are the reasons and considerations behind this decision? How do you think about the relationships among these five research domains?*

Anderman: The five domains is simply a way to organize a book so that readers can look at it and find what they might be looking for. But other than that, I find the divisions are artificial. We make them up and they are good to have. It is better than having very traditional domains like learning and development. That is too broad. So this was a way of mixing it up. But at the same time, they are all completely interrelated. In hindsight we should have done better is to have the authors of the chapters refer to each other's chapters more often. There is some of that in there, but it would have been better that way. Part of that was difficult because it was so many authors from so many different places, and you want them all to be on the same timeline. People end up not being on the same timeline. It was not always easy to share pieces with each other because some of them were only half-baked and were not ready. But I do not want anyone to go away and think that these are five new areas that we should organize. It is an idea, but there is plenty of other ways to organize these things as well.

Xiangdong Yang: *From the perspective of the future development of educational psychology, what could be the possible research "hotspots" in terms of research topics, fields, theories, techniques or methods? What are the future trends?*

Anderman: This question comes up all the time, and it is difficult to answer for many reasons. Prior to Covid, I might have answered differently. I would say that future research will need to focus on how our theories of learning apply in online environments. I think that cognitive aspects of learning in particular will be an important area of inquiry in online learning. I also think that the integration of research on self-regulated learning into academic instruction presents a tremendous opportunity for research. Many universities (including my own) offer "learning to learn" courses, aimed primarily at new university students who do not have a repertoire of effective academic strategies when they get to university. Why don't we teach these strategies to students before they get to postsecondary settings? The increased use of technology in particular affords a tremendous opportunity to teach, remind, and prompt students to use effective strategies on a daily basis (e.g., setting short-term goals, summarizing readings, etc.).

Xiangdong Yang: *What do you think of the position and value of educational psychology in the field of edu-*

cation in general? How to view the relationship between educational psychology and the overall educational research, as well as other disciplines in the field of education (e.g. curriculum and instruction, educational technology, educational philosophy)?

Anderman: It depends on whom you ask. There are many in education who deeply value educational psychology; there are others who think that content knowledge is really all that teachers need to acquire in order to be effective. In many teacher education programs, there is a push to not have educational psychology as a stand-alone course. Many of us (including myself) have to constantly fight with our colleagues to keep even one educational psychology course in the curriculum. In my view, educational psychology is the core of all of education. It's the one place where pre-service teachers learn about how people learn, how people are motivated, and how children and adolescents develop (cognitively, socially, physically, morally, etc.). I sometimes like to ask people this question: "Would you feel comfortable going to a doctor who never took a basic course in human anatomy?" Their response is almost always "No!" I then ask, "So should we be comfortable having our children be taught by teachers who have never had a basic course in how children learn and develop?" This usually gets my point across.

Yi Jiang: *If you were to be the editor-in-chief of the fourth edition of the Handbook of Educational Psychology, what changes would you make in the organization and arrangement of topics in the new version? In other words, since the publication of the third edition, do you think there are some landmarks in terms of theoretical development, research topics, or methodology in the field of educational psychology?*

Anderman: I would put in a greater focus on neuroscience. I would also put a greater focus on learning through technology and learning with technology. One of the chapters in our previous book, one of my favorite chapters in our book was called Networked Learning by Gary Natriello at Teachers College, Columbia University. I really love that chapter because it was a little ahead of its time. It was a chapter that talked about how our theories of learning do not quite work the same way when you look at online learning and learning through technology. Since the publication of this book, and certainly since Covid, not just educational psychology, but the world realized that we were not prepared for that. We do not know very much about how to support learning in these online environments. So I think that would be absolutely the most important thing that I think would be in there. The other thing I would put in there is I would want to see a few chapters on the relationship between educational psychology and policy. How do policies that nations or States or regions put in place to educate children and adolescents? How do they align with what the research actually tells us? There is a huge disconnect in the United States, and I am sure there is in all over the world. There is many times disconnects, and I would very much want a chapter that really looked at that with a critical eye and said there are all these things that are going on in schools, that the research says people do not learn that way. Those would be the three things I would include in the fourth edition.

Yi Jiang: *If we narrow down to the field of the learning sciences, from your perspective, how does educational psychology relate to or differ from the learning sciences? I do not know what the situation is in the United States, but in China, the learning sciences is somewhat separated from educational psychology. And it is becoming a competing field in education. So I wonder what was the relationship between the learning sciences and educational psychology when you were planning for the third edition of the Handbook? What was the situation at that time?*

Anderman: Learning sciences was a little newer then. It was not in as much of a competitive role, but we tried to integrate it. I have very strong opinions about that, which I am not afraid to share. When people were doing learning sciences, I just thought people got this new term. Then it became clear that it was like a very differ-

ent field. It is so divisive. Maybe we should rename everything as the psychological science of learning or something like that, because the distinction is damaging. People are reading journals and journals are not publishing each other's work, and it's narrowing the science. The learning sciences people give a lot of design experiments, but the person who just started design experiments was Ann Brown. She was a developmental and cognitive psychologist. It is a new methodological approach. Maybe it is new in terms of a paradigm as well, but it is still Educational Psychology. It does not need a new name.

I think that the competition between learning sciences and educational psychology is ridiculous, and it damages us both. I have had arguments with learning sciences people who said, "no, we are very different." They use some different methods, but they are the same thing. There are departments in the United States that are switching their names from Educational Psychology to Learning Sciences, but they are still doing traditional educational psychology. I think the distinction is absolutely damaging to our field. It is creating these silos that do not need to be there. We can learn from the learning sciences people and the learning sciences people can learn from us. The sum is bigger than the parts. I absolutely do not like that distinction, and it is very serious. There are some funding agencies who fund research in the United States. If you do not cite the learning sciences people, they think that you will not get funding. It has turned into something political in some cases. We did invite some people who were a little bit sort of moving into that direction there, but it just was not this big a distinction then.

Xiangdong Yang: *Besides learning sciences, another rapidly developing field is brain sciences or cognitive neuroscience. In your opinion, what influences will brain sciences research (e.g., ERP and fMRI) make in the future development of educational psychology? Does it affect research findings, research paradigm, or epistemology in educational psychology?*

Anderman: I think it is too soon to tell. There will be effects. I know at Korea University they are doing some really good stuff there with it. It is something I hope in the new edition of the Handbook that they have a chapter on it. I just think it is too early to tell. We have to be cautious. I worry because I do not know how it is in China, but in the United States, there is a very, very big business of people selling books called brain-based learning that are not based in science. People go around and give workshops to schools about left brain learners and right brain learners. And that is just wrong. It is dangerous. It is not based on science, and that is where I get nervous about the neuroscience people taking the neuroscience and trying to do things in practice with children and schools that are not supported by the research. It is the way of the future and is really important, but I think we have to just tread lightly, go very, very slowly with it and wait till the science emerges. Absolutely be publishing that research and reading it and looking at the implications, but not running away with it and turning it into something that it may not be.

I also think brain sciences will bring new research paradigm for educational psychology. What is really important is using both types of methodologies, that is, using some of the methodologies from neuroscience in conjunction with a lot of the more traditional methodologies we use and seeing what the connections are and seeing how they support each other. It is very much like people who do mixed methods research. They use quantitative and qualitative, but they do not use it separately. They use it so that the sum is greater than the parts. By putting it together, you get to see something bigger. I think that is what neuroscience is going to be doing as well. There are very few people who really get trained in neuroscience. We have a PhD program, and our students do not get trained in that. It is not part of our program. Maybe in a few years it will be. We have a big neuroscience department at the University, but it would mean a major shift in the training also. There are not a lot of educational psychology people who are trained.

2. Challenges and Opportunities for Educational Psychology in the Context of a Pandemic

Shufeng Ma: *The breakout of Covid-19 has changed the world fundamentally. Due to the Covid-19 pandemic, educational practices have to rely on online or technology-supported environments, which is likely to become a common learning mode for a long time to come. What problems do you think may arise from this change in teaching and learning? How does educational psychology address these issues? In your opinion, what challenges will educational psychology face in this context? Are there new opportunities? For example, what research hot-spots and new research directions will be emerged during this time?*

Anderman: Educational psychology can play a very important role in understanding learning in the digital age. This has become more apparent than ever since the onset of Covid-19. Students and teachers across the world were suddenly confronted with the challenge of online teaching and learning. It became abundantly clear to teachers, students, researchers, policymakers, and parents that none of us were prepared for this. Learning with technology is just different than learning in a traditional classroom. To give a concrete example, it became apparent that many students were not engaged during online learning. In some schools, educators were not permitted to force students to keep on their cameras during instruction. Thus there were classrooms in which teachers had no visual (and sometimes no audio) interactions with students—sometimes for many months at a time; they had no way of knowing if the students were attending to the lessons at all. This is just one example. There are abundant opportunities for research in this realm.

In the United States, last year and the year before this, many of our public schools were doing online learning. I had the opportunity for some research projects I'm working on to be in some of the online classrooms and watch. I was so distraught with seeing a class with 25 students and one teacher, and one or two students only had the cameras on, and you have no way to know if students are disengaged. Part of that is because they are not in the physical presence of a teacher. I am not blaming anyone for this, but we were all forced to just take the regular way we teach and say, "Oh, let's just do it online like over the weekend." It does not work that way. The role of educational psychology, the biggest for me, is in self-regulation. I would say self-regulation of learning for learning online. Children and adolescents and even college students have trouble with that in without learning online. One of our biggest courses in our Educational Psychology program is a course on learning to learn. We enroll almost 2,000 people a year in that, and it is basically teaching college students how to self-regulate, how to plan, how to not procrastinate, and how to set goals appropriately. But those things are different when you are learning online, so I think we have a huge opportunity to work there.

I also think in terms of student engagement. How do you engage a student in an online classroom? And there is an assumption that asynchronous learning is going to be effective. I think that is a very inappropriate assumption to make, particularly with younger learners. They are going to just go off and do these things in their home or wherever they are. So there is so many opportunities there for things that we can and should be doing. What I was just talking about this with somebody yesterday is the learning loss. I do not know how it was in China, but for us it has been very, very clear that kids did not learn a lot last year. They just did not. And this year they are in the next grade. They are moved up and they do not know, but they do not know a lot of the content. So I think of classes like in any class, but like learning classes that involve reading and literacy classes. In mathematics everything you learn the next year builds on the skills from the previous year. So, I think this is another area where what we know in educational psychology about cognition and about the role of prior knowledge and learning is so important. I see so many students' struggling and teachers' struggling. They do not have the prior knowledge. So we need it rather than rushing forward, but to take a step back. I think educational psychology has

a huge opportunity to make a difference there.

Shufeng Ma: *You have mentioned self-regulated learning, can you tell us more about it? How to promote self-regulated learning for students in an online environment? How to study self-regulated learning in the online environment? What are the possible new changes in research paradigms and research ideas?*

Anderman: I do not personally do a whole lot with self-regulated learning. I have done a little bit, but there are different ways people approach it. One way is people use surveys and ask people to report the strategies they use. I think that is useful in a limited way. But what I think is going to be really important moving into the future is using technology to assess self-regulated learning and using things like experience sampling methodology in the moment. I was working on a PowerPoint yesterday and if you ask me to fill out some questions about my self-regulation while I was doing working on it, I remember like I was working on it. And this is for a presentation I am doing next week. And I got very frustrated at one point and I put it aside and I was getting really angry because something with the analysis was not right. And if you asked me today to go back and fill out a self-regulation measure about what happened when I was working yesterday. I could fill it out, but it would be pretty meaningless because I was all over the place. And imagine having a seven-year-old does that. At least I know what self-regulation is and can think about that. So I think that the surveys are good, but they are limited. I think the experience sampling methodology has so much potential. Because if you were studying self-regulation, if you had used something to ping me or beat me in the middle of when I was working on this PowerPoint, and had me answer questions that you have gotten very accurate data about what was happening in that moment. I know Phil Winnie who has been on Simon Frazier University in Canada. He has this microscopic approach to studying self-regulation, particularly in online. I think it is extremely important, and we need some new methodologies. I also think that teaching people how to be self-regulated learners is something that educational psychology has not really and learning Sciences certainly have not done a good job about doing. We are rewriting our educational psychology textbook now, the next edition. We added a whole new section on how to teach people to be self-regulated learners, because I think that is we always measure it after the fact. Are you self-regulated? But I said one of our biggest educational psychology courses is the one that we have thousands of first year college students who do not know how to self-regulate. No one ever taught them how to do it.

Shufeng Ma: *Recently I read a paper about the ways that people use to communicate with others through technology. Students can take an online course via Zoom meeting. They can study on Moodle, Blackboard, or other online platforms. They can also talk with their friends over the phone to complete a collaborative group work. So students are exposed to all kinds of communication modes in the online environment. Then there is a problem about choice-making, which triggers the need for self-regulation skills. Have you ever looked into the research on this topic? What role do you think educational psychology can play in facilitating students' skills for mode choice or mode switch?*

Anderman: I think that is a very real problem. One of the projects that I work on use a lot of technology in that project. We use Microsoft teams. We use Discord. We use Trello. We use Google docs. This is cognitive overload for many people. I think people need some direction with that. So particularly, I think if a student was in that situation and has all these different ways with technology to access information, to communicate about information, that is very confusing for them. They need guidance. If we are going to do that with kids in school, we need to take a step back and maybe give them a roadmap and said, if you're working on math and you have a problem with your math problems. Eventually they will be able to figure it out for themselves, but they need scaffolding. They need guidance. That is something we know about how people learn. People do not just learn to

make complex decisions. People are socialized into doing that.

Shufeng Ma: *The reason I ask this question is that theories in educational psychology do not directly address the issue of teaching children how to use different devices. It is not only a technology issue, but also an education issue. Do you think current theoretical frameworks can support this kind of decision making or learning, such as self-regulated learning with devices? Do we need new theories to guide leaning or communication with technology?*

Anderman: Well, there is a difference between needing a new theory and needing new practical guidelines. I do not think we need more theories. We have more theories than we need already. I think what we need is giving practical guidelines to students, to educators, to parents, about how to help kids make those decisions. I think our theories can cover all of that. In the motivation area, which is my area, we have all these different theories, and I wrote a piece in *Contemporary Educational Psychology* last year about do we really need all these theories. I think, for the learning, it is the same thing. I do not think we should always think we need a new theory. We have the theories, we need research that specifically addresses the very important issue that you raised. The other thing that I see too much of is that people frame their research in one theory. I think that a question like the one you asked, there are multiple theories that can help us answer that question. Some of it has to do with like social cognitive theory, with self-efficacy for making those decisions. Some of it has to do with information processing, with being able to bring up the appropriate prior knowledge. So I think we have the theories. But putting them together into some testable research design where we can actually come up with recommendations that work.

Xiangdong Yang: *With the development of technology, learning environment design has gradually become an important component of teaching. The fourth part of the Handbook illustrates the Learning and Task Environment. Also, there is a chapter in the discussion of methodology which addresses The Work of Educational Psychologists in a Digitally Networked World. Do you think we should pay more attention to the design of learning environment? How do you think about the rise of design-based research in recent years?*

Anderman: I think there is a lot of potential in it. We do not know the answers to that yet. People make assumptions, particularly since Covid, that all these online environments and virtual environments are going to really facilitate learning. In some cases they do, and in some cases they probably do not. So I cannot give you a straight answer because I do not think we know yet. I think that we need more and more research. When you talk about presenting and putting people in the context, just in the last few years, it was just static PowerPoint. Now we have animations and virtual environments where you feel like you are actually in the situation. To me, I think those all have huge potential. But the question for me always is, it is not real. And the students know it is not real. At the end of the day, for me, the question is, will it transfer to the real world? That, I think, is the important question. So we can have all these great learning environments, and we can do pre- and post-tests and see if people learn and see if their performance gets better. And that is all good. I have done research in health and adolescent health. In public health, people always say, “yeah, that’s great”, and you can change it in a laboratory or you can change an attitude. But can you change your behavior in the real world? That is the gold standard in health. I think that will be for this also. We can create virtual environments that are really meaningful and powerful, and they do change behavior and learning outside of the virtual environment. But that is to be tested, though.

Yi Jiang: *In our department, we are trying to build a technology-supported learning environment and collect multi-modality data while students are engaged in learning. For example, we may collect biological data or facial expressions and integrate all different kinds of information to analyze the learning process. But now I think the most challenging problem we face is coding. For example, how do we judge if a student is a self-regulated learner? What is your opinion on this approach? Will it make some contributions to future research and teach-*

ing?

Anderman: Absolutely, I do. I think that I am still learning how to do research. There are always new ways of doing it, and I think that collecting data in as many ways as possible to look at any kind of phenomenon, any kind of learning is going to be huge and going to be great. So what you are describing as collecting all these different kinds of data, you know, while the students are learning, is absolutely the way of the future. We do some of that in one of our projects where we have video of students, we have observations of students, we have surveys of students, we have individual interviews, all focusing on the same topic, and it is very hard to do that kind of work. You really get to see what is going on because all the different approaches together create something much, much broader. But it is difficult to do. And obviously it is expensive to do that.

Xiangdong Yang: *When people try to collect multiple modality data, they like to conduct design-based research, with an embedded theory in the experiment in order to collect data from different sources. How do you think about this kind of design in terms of theory building and its practical implication?*

Anderman: I think it is great. I think people get to hung up on using a certain methodology and being so rigorous toward it, and taking advantage of the moment. I think design experiments are really like them because while you are doing the project, we need to change this because it is very clear that something is not working, rather than running the course and seeing something not working, saying, “we’ll fix that next time.” So I think that in general in our field, people need more training in that even if you do not want to do that work. As people who review manuscripts for publication, they need to appreciate it, understand it and understand that that is a rigorous way of doing research and not reject it outright and say, “This is ridiculous. There’s no controls.” They switch things in the middle, and I think that falls a lot on the journal editors to make sure that when people do design experiments or doing innovative things, that it goes out to reviewers who are going to be open to that. That is something I learned as an editor early on. The most important decision I make is who I send something to, because you can send something to some people who are not going to like it. If you have something really different, you want to send it to somebody who is going to be open-minded and somewhat knowledgeable about it.

Xiangdong Yang: *What is the current status of design-based research in the United State? Is there a trend that more and more are doing it or you find more people are rejecting it?*

Anderman: Well, in some ways, that is at the core of the learning sciences, educational psychology dichotomy. A lot of learning sciences people do design experiments, and so that is in some ways why they claim the name. Learning sciences people do design experiments, and so we are different. There are people I know, people who call themselves educational psychologists who do design experiments, too. So it is happening. It is becoming very popular. There is quite a bit of funding. The National Science foundation in the United States has funded quite a few learning sciences studies in classrooms about how children and adolescents learned about science. But it is just the labeling thing, like the educational psychology people do surveys, and the learning sciences people do design experiments. If we got rid of the labels, we all do all of them, and we all can do all of them.

3. The Relationship between Theory and Practice in Educational Psychology

Shufeng Ma: *What do you think of the relationship between theories of educational psychology and educational practices? What position or principle should be taken when applying the theory of educational psychology to educational practices?*

Anderman: Theories are important and have their place. They do and should guide research and scholarship. But theories in and of themselves often do not translate well to practice. Scholars need to take theory and research and unpack complex ideas and put them into readily usable practices that educators can adopt. I have been

the editor of the journal *Theory into Practice* for the past decade, and that is all that we do in the articles that are published in our journal.

Shufeng Ma: *What do you think is the value of proven instructional and learning techniques and concepts in improving education?*

Anderman: Well it depends on the technique and the concept. If we know that a certain technique “works,” then we should be applying it in classrooms. Part of the problem in the United States is that there often is a disconnect between what teachers and school administrators understand about proven techniques. For example, many teachers probably understand that the use of rewards and reinforcers can undermine intrinsic motivation; so teachers might refrain from using those in their classrooms. But in the same school, an administrator might not have the same understanding, and might criticize a teacher for not using rewards; or, the administrator might implement a schoolwide reward-based program that undermines the practices being implemented in classrooms. So there has to be a schoolwide agreement about the value of certain instructional techniques, and there needs to be school-wide support for the implementation of those techniques.

Shufeng Ma: *Teachers and practitioners generally believe that there is a gap between theories of educational psychology and educational practices. Erik De Corte wrote a comment at the end of the Handbook, titled “Two Faces of Educational Psychology: Knowledge Advancement Disconnected from Educational Practice.” Several leading scholars in Educational psychology also pointed out the disconnection between theoretical/empirical research and educational practice in authentic settings. You have served as the editor-in-chief of Theory into Practice for a long time, what do you think about this disconnection? In your opinion, the gap between theory and practice manifests in what aspects?*

Anderman: I think there is an enormous gap between theory and practice. The example I gave you earlier about brain-based learning. My favorite example that I cannot stand is in the United States—there is another huge, huge business for learning styles, the idea that you have visual learners and auditory learners. It is not right, but teachers believe it is real. It is not school’s fault. It is not teacher’s fault. It is that something is broken in the system. I always compare education to medicine. In the field of medicine, if people had these myths or misconceptions or were basing the way they treat patients on simply inappropriate information, nobody would stand for it. It would be in the news they would lose their license. But in education it happens all the time. So this is why in the beginning I said I would have a chapter on policy. I think the most important way to change this is to change policy. When I say policy, I mean that very broadly. For example, to make sure that programs that train people to be teachers address these myths so that when teachers get out in the schools and they hear their colleagues say things like, “we have this program here refer kids to visual learners and auditory learners”, and that they could say, well, actually, I learned in school that is not quite the way things work and to get that message out there. But I think policy has to change, so are accreditation standards. I do not know how it is in China, but in the United States, school administrators, principals, they often have never had a course in educational psychology. And they are making huge decisions about how students will learn and how the districts will invest money. A really easy way to make a big dent in that is to make sure that administrators are required to take a course in educational psychology, and they are required to take a course on how people learn, how children learn, how to motivate people, how are eight-year-old different from 14-year-old, etc. That would be a huge way to help solve the problem because they make decisions. And if they could make the decisions based not on urban legends and things they have heard, but on actual science, they would make more sound decisions. And the gap would be reduced a little.

Shufeng Ma: *Another issue I want to ask for your opinion is that some of the research articles do not speak to teachers or practitioners. Most research papers use complicated methods and report results based on complica-*

ated statistical analyses. You have served as the editor for Theory into Practice. Have you ever done anything to let the authors speak to the teachers or practitioners? How do you make the articles more readable for educators?

Anderman: *Theory into Practice* is a very unusual journal. We only publish thematic issues. All the themes are things that we try to make relevant to educators and none of the articles are new empirical studies. They are all taking research and applying it to practice, to policy, to curriculum development, things like that. But it all is based in science. We have been doing that and the journal has been around for over 60 years. It is getting the right people to read that. The information is out there. But the trick is how do you get the teachers to read that? How do you get the school administrators to read that? I have been struggling with that for a long time. I do not quite know how to do that. I also think one of the ways that I do, and I encourage others to do, is for people who are particularly academics, who are established, to take time to write for practitioner journals. We had two publications this year that I did with my students in one is called *Ed-Leadership*, and one is called *Phi Delta Kappa*. Those are really, really huge outlets for educators, and we wrote about our research in very practical ways to get it out there. And I think more academics need to do that. It is not easy. We are used to writing in a very specific kind of way. You have to write in a very different way for these other types of outlets. On my sabbatical, I wrote a book called *Sparkling Student Motivation*. All the theories are in here, but they are not called theories. I think we need more books like that, that are based in research. There are a lot of books out there and how to motivate kids and engage kids that are not based in science. We need more of those things and we need to market it to teachers. The other way I think that is social media. Getting information out through social media through Tweet and YouTube and Instagram and tick tock and all these different things.

Xiangdong Yang: *What are the underlying causes or mechanism of the disconnection? Whether it was the difference in research questions, research perspectives, research paradigm or epistemology that caused the disconnection? For instance, problems in practice are integrated, but research questions are small and focused, so how can we deal with this gap in educational psychology in future?*

Anderman: It depends on the research question. It depends on the resources that you have. I think we have learned more and more in educational psychology, the contexts matter, and that just focusing on a very, very small aspect of learning does not capture the whole thing. That being said to be able to really do a thorough and rigorous job you need of measuring multiple aspects in the contexts. You need a lot of resources. You need a lot of people, so it is difficult to do that. So I think part of it is developmental, When a graduate student is doing a dissertation, I do not think they are going to want to do that. Start small, but we need to build bigger. There needs to be funding support to do that because that is hard work to do. It takes a lot of time and takes a lot of resources. And if you want to do it in multiple classrooms or multiple schools, then that makes it all that more difficult.

Xiangdong Yang: *Most countries and organizations have proposed their unique conceptual framework (e.g., Common Core Standard) to describe core competencies that learners should have in order to succeed in the future. Education reforms on key competency or 21st century skills have been carried out all around the world. For example, Arthur Graesser published an article in Annual Review of Psychology (Educational Psychology Is Evolving to Accommodate Technology, Multiple Disciplines, and Twenty-First-Century Skills) mentioned the relationship between educational psychology and the cultivation of 21st century skills. From your perspective, how Educational psychology should respond to future needs?*

Anderman: There are many standards put forth. Schools often are guided by these standards. First and foremost, I think that it is critical for educational psychologists to be able to comment on and help to develop these

standards. I have had a few opportunities to do this, and I consider it some of the most important work that I have ever done. Nevertheless, I see these standards as one tool in our toolkits. I have never seen a set of standards that can't be aligned with core research and theory from ed psych. It's a matter of not seeing the standards as incompatible with educational psychology. But practicing educators may need support in figuring out how to meet the standards and also apply evidence-based practices to their teaching.

A lot of the 21st century skills are Educational psychology skills. They are self-regulation, kinds of skills. There is nothing new in these 21st century skills, but it has just been packaged differently. These have been important skills in the 20th and the 19th and the 18th century, too, but I do not think they're any more important now. They are getting the spotlight, and that is great because this is the way to make policy change. I was involved in redesigning the Standards for licensure for elementary teachers in the United States. One of the things I really pushed for was 21st century skills. Others did, too. The standards for licensure include knowing how to do that. But that was really a disguise for self-regulation. They are self-regulatory. And they are cognitive strategies. I think we need more of that. If calling a 21st century skills is going to get people to take it seriously, then call it whatever you want.

4. Suggestions and Expectations for the Development of Educational Psychology in China

Shufeng Ma: *In the third edition of the Handbook, the discussion on the past, present and future development of educational psychology is mostly based on research in the United States. As a world renown scholar, have you learned about the development of educational psychology in other countries? Do you have any particular interest in the development of educational psychology in other cultures? Are you aware of any differences in research topics, theoretical frameworks, or developmental stages in different countries or cultures?*

Anderman: In the Handbook, we did have authors from Korea, Canada, Israel, Australia, New Zealand and Hong Kong, China, but the majority were not. That is something I hope in the next edition they are better at. Right now there are so many more connections between United States researchers and international researchers than there were fifteen years ago when we were planning this. We can have conversations and there can be collaborations like this. One of the things I have always wanted to do and hope to do someday is research in Cambodia. There is nobody in Cambodia doing educational psychology where I know, but I am sure that it is completely different there about how students learn and are motivated and engaged. We may need more theories that take culture or context into account in not just educational psychology, but all of psychology.

Xiangdong Yang: *In this age, if a university attempts to build a new educational psychology department, are there any important steps that you think should be taken into consideration? Our department is the first Department of Educational Psychology in mainland China. As a world-renowned scholar and an experienced leader in this field, what suggestions do you have for us to better build this department? Can you share your experiences in team building, personnel recruitment, research directions, research paradigms, etc.?*

Anderman: That is a big question. I was the chair of my department for a long time. I do not know if there is another department in your institution that trains teachers, but one of the most important things is to develop a really strong collaboration and relationship between the units that train teachers so that there is not this divide. I have throughout my career always had to fight to keep the one educational psychology course in the teacher training program. Everybody wants their programs to be shorter and we have to remove something. Educational psychology always is a sacrificial course. I have always fought and I have always won. But it should not be a fight. So my best advice is to get in early with those people. The other thing is to have very loose boundaries between your department and other departments. Things we have been talking about, like neuroscience, establishing rela-

tionships across those departments. One of the projects I worked on years ago, we had a grant and we had an anthropologist on the grant with us. That was a great learning experience for me. And I thought establishing these kinds of connections for graduate students early on and having them not feel like they are limited by “I’m an Educational psychology,” but feel like “I’m in Educational psychology, of course, that’s what I’m doing, but that I can learn from all these other areas.” I would say to have flexibility to encourage your students to take courses in other areas and to integrate those. The other thing is to do research in real settings, I mean, to give students as much opportunity to research in schools and classrooms. Nothing substitutes for that. And the other thing I would say, is to make sure that the students learn the history of the field. In other words, do not forget where we came from because there are so many times I see, and you’d probably see it too, where people reviewing an article for a journal and someone has a new idea. And I think that is not a new idea. Some people did that in the 1980s. But because so many students do not get ever read the older literature and do not know the history of the science. We do not do a good enough job of that, and we should. And we are trying to. That is something from the beginning to just start trying to do that and making students appreciate that.

For faculty members in the department, I think you should let people do what they want to do, absolutely. But as a department, you have to decide if you want to be known for a specialty area. Do you want to be known for something? And if you do that, I think you want to hire people who do that kind of work, but then give them the latitude to do what they want to do. If you just want to have broad representation, then that is fine, too. There are some places in the United States that are known as like “this is a place to go to study motivation.” There is a lot of motivation people there. There are a few places like that. We are one of those places, but there are many places that are just very, very broad. So I think that has more to do with your identity. How do you to be seen? How do you want to be known? And I guess, as a new department, you may just want to be very broad at first and then later figure out where and how to focus.

Xiangdong Yang: *Do you have any expectations or suggestions for the development of educational psychology in China?*

Anderman: Really just what I said before, just to give students the opportunities to do research in real classrooms, to really establish positive relationships with your teacher preparation programs, to do interdisciplinary research, and also for the researchers to work collaboratively. All of us together are much stronger than any of us individually. So my advice to you would be to really make those connections and to work with other people and other areas. There are a lot of people in the United States, I imagine in China as well, who are not in the field of education, who do research in schools, and they don’t know what they’re doing a lot of the time, and they can benefit from us. So you can make it a win-win where you can help them and they can help you in those things.

Authors’ bio:

Eric M. Anderman is Professor of Educational Psychology and of Quantitative Research, Evaluation, and Measurement. He received his Ph.D. in Educational Psychology from The University of Michigan, and he holds a Master’s degree from Harvard University and a Bachelor of Science degree from Tufts University. His research over the past 25 years has focused on academic motivation. He is a Fellow of both the American Psychological Association and the American Educational Research Association. He is the editor of the journal *Theory into Practice*, and he recently co-edited the 3rd edition of the *Handbook of Educational Psychology* with Lyn Corno, and the *Visible Learning Guide to Student Achievement* with John Hattie. He is the co-author of three text books, as well as over 100 peer-reviewed articles and invited chapters. His research has been featured in numerous media

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