
Interview

An Interview with Jere Brophy

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Jere Brophy is presently University Distinguished Professor of Teacher Education and Educational Psychology at Michigan State University and is a clinical and developmental psychologist by training. Brophy has conducted research on many topics including teachers' achievement expectations and related self-fulfilling prophecy effects; teachers' attitudes toward individual students and the dynamics of teacher-student relationships; students' personal characteristics and their effects on teachers, classroom processes, and student achievement; teachers' strategies for managing classrooms and coping with problem students; teachers' strategies for motivating students to learn; and instructional method issues involved in teaching social studies for understanding, appreciation, and life application.

Professor Brophy has authored over 300 articles, chapters, and technical reports. He is best known for the text *Looking in Classrooms*, now in its ninth edition. He has also authored *Contemporary Educational Psychology*, *Motivating Students to Learn*, and *Social Studies Excursions, K-3*. He received his Bachelors from Loyola in 1962 and his PhD from the University of Chicago in 1967 in Human Development and Clinical Psychology. He serves as Advisory Editor to *Educational Psychologist*, *Journal of Educational Psychology*, and many other journals.

In this interview, he reflects on some of the most pressing educational issues of our time, discusses the challenges facing education and educational psychologists, and describes his latest research interests.

Q. What do you see as the current "state of the art" of educational psychology?

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A. I can speak to that question from both an insider's and an outsider's perspective. My training is in human development and clinical psychology, not in educational psychology, and I am not a prototypical "Division 15 person," in that my interests focus more on the teacher than on the learner. However, I share many values and interests with educational psychologists. I view myself as a researcher on teaching whose thinking is informed not only by educational psychology but by theory and research on teacher education, teacher-student interaction, classroom management, teacher effects, school improvement, and teaching in the subject areas. As a result, I both value educational psychology for its unique contributions and chafe at its limitations (especially those that are needlessly self-imposed).

One endemic problem with educational psychology is highlighted using the concept of development. As a system develops, it becomes both more differentiated (new parts are added and old parts divide into increasingly distinct subparts) and more integrated (the system as a whole becomes better connected, with occasional major restructuring). Unfortunately, educational psychology's history has featured much more differentiation than the integration. Centers of activity that began within educational psychology have tended to split off and form substantially separate disciplines (e.g., special education, school psychology) rather than remaining within a larger, restructured discipline of educational psychology.

Another problem is educational psychology's tendency to emphasize individual differences and relatively stable traits of learners and research that treats these as independent (predictor) variables, instead of emphasizing situational events and research that focuses on understanding and producing change (especially classroom teaching and learning). Much of this is traceable to paradigms inherited from psychology that are not well matched to the professional concerns of educators. For example, it is not very helpful to educators to know that individual differences in students' learning are partially predictable from their IQs or current motivational profiles. Instead, educators understandably want guidelines on how they can optimize their students' learning and motivation, preferably guidelines that apply to the class as a whole and not just to selected individuals. In order to address this limitation, educational psychology must retain certain aspects of its psychological roots but shift toward becoming more educational in its purview.

There are significant developments in this direction in recent decades, including some key innovations that have potential for both integrating the field around shared theoretical models and increasing the emphasis on education in educational psychology. One is the development of cognitive modeling as an instructional technique, rooted in the work of Al Bandura and Don Meichenbaum. Another is sociocultural theory, with its emphasis on

modeling, coaching, and scaffolding within the zone of proximal development, and on gradual transfer of responsibility for regulating learning (from teacher to students) as learners' expertise develops.

I also believe that educational psychology has several important strengths. Its psychological science traditions make it less susceptible to fads and enable it to provide a much-needed grounding influence on the field of education as a whole. In the face of excesses wrought by postmodernism and its relatives (which peaked and now appear to be receding), educational psychology kept its head about it by continuing to pay attention to substance (not just form), concepts and behavior (not just language and subjective experience), the content and validity of ideas (not just the identities of their sources), and empirical data (not just theory). Ultimately, these emphases produce much more generalizable and applicable knowledge (more light, less heat) than the recent zeitgeist has.

Another way that educational psychology helps keep the larger field grounded is by reminding us that there are several qualitatively different kinds of learning, each with its own set of optimal instructional settings, activities, and techniques. Much of the contemporary educational literature gives the impression that there is only one kind of learning: the kind that is socially constructed through discourse, preferably discourse focused on answering questions or solving problems. Educational psychology emphasizes useful distinctions between rote and meaningful learning; intentional and incidental learning; reception and discovery learning; propositional, procedural, and conditional knowledge; attitudes, motor skills, information, intellectual skills, and cognitive strategies; and the levels of objectives built into various taxonomies, most notably the recently revised taxonomy of cognitive objectives (Anderson and Krathwohl, 2001). These distinctions help remind us that different types of learning require different instructional conditions.

Another strength is educational psychology's continuing emphasis on research design and statistics, appropriately broadened to include qualitative and other nonexperimental studies. Especially important are basic ideas surrounding issues of sample representativeness, generalizability of findings, replicability of the research, and size/significance of the effects or relationships demonstrated. As someone who reviews regularly for a variety of journals, I frequently encounter sweeping generalizations that go far beyond what the data support, but usually not from educational psychologists.

Although enthusiastic about the value of basic principles of research design and statistics, however, I am less sanguine about the recent proliferation of studies that emphasize path analyses and related multivariate statistics, especially studies that purport to "test" path models and then

proceed to discuss the results as if causal linkages had been verified experimentally. I can understand the temptations to fool oneself into believing that causal inferences can be drawn from correlational data and to favor paradigms that allow one to churn out research reports rapidly. (In the motivational sphere, for example, it is much quicker and easier to spend a few hours administering questionnaires that incorporate several motivational scales and then use path analytic methods to “test” models of how “effects” are “mediated” than it is to implement and assess the effects of an intervention designed to improve students’ motivation to learn.) However, despite the causal connotations associated with several terms that unfortunately are established in the language used to discuss multivariate analyses, there is no substitute for experimentation if one wishes to establish causality. Furthermore, in my view, these path analytic studies rarely yield much of significance. I hope that the current infatuation with these methods is short-lived.

Q. Do you have comments on how educational psychologists ought to be trained?

A. It seems to me that educational psychology currently is of primary relevance and use to two main groups of people: those involved in educating teachers and those involved in developing instructional materials or technological resources. I would like to see training in educational psychology include internships or other arrangements that require advanced students to spend significant time in the milieu in which they expect their research findings to be applied. People with instructional design interests would work with teams preparing learner-friendly texts or instructional technology, and those interested in educating teachers and studying learning in school would work in classrooms. I suggest this because I believe that many people who get PhDs in educational psychology have had little or no experience in these applied settings, so they are long on theory but short on practical experience. This can lead to research on motivation, for example, in which the tasks, instructions, or incentives used are too far removed from what occurs in schools to have much potential for generalization to school settings.

I also believe that training in educational psychology should include a course on basic foundational concepts in education. One such concept is the principle of taking into account knowledge of enduring value (including but not limited to the disciplines), the learners (age-related capacities and interests), and society (the learning outcomes it deems most important to develop in its citizens) as sources of curriculum (Kliebard, 1986). Another is the distinction between K-12 school subjects and their corresponding

disciplines, based on their contrasting purposes and goals. School subjects are organized and taught for life application, whereas the academic disciplines are organized to generate knowledge in continually differentiating domains (Engle and Longstreet, 1972).

If educational psychologists' thinking about school subjects is limited to knowledge about the disciplines as conveyed by, for example, mathematicians and many mathematics educators, they will be working from a distorted view of what is or should be the K-12 mathematics curriculum. Consider the concept of authentic tasks. People who view the K-12 school subjects primarily as simplified versions of the related disciplines (and therefore think of students as novices being socialized into disciplinary communities of discourse) tend to define authentic activities as activities that are representative of the work that practitioners of the discipline engage in when they "do math," "do history," etc. In my view, many school activities that fit this disciplinary definition of authenticity are not authentic with respect to life applications (because they deal with specialized disciplinary topics or problems that are too esoteric for anyone but a disciplinary specialist to need to know or even care about). I would question the inclusion of such activities within the curriculum, most immediately because they provide little basis for motivating students to learn, but more fundamentally because they do not develop key ideas or skills that most people would count as basic preparation for life in contemporary society.

A related point is that educators with a disciplinary focus tend to favor activities that call for students to use disciplinary tools and engage in disciplinary discourse genres to generate knowledge (e.g., by examining multiple primary and secondary sources relating to a historical event, assessing their credibility, and using them to construct defensible historical interpretations). I would argue that although some involvement in such historiographical activities is useful (especially in the upper secondary grades), history instruction is more meaningful to students and more effective as preparation for life in general and for citizenship in particular if it emphasizes opportunities for students to function as consumers rather than producers of historical knowledge. If I were teaching about the American Revolution, for example, my students would spend little or no time attempting to determine who fired the first shot at Lexington Green but a lot of time learning about the issues that arose between England and the Colonies, noting how these issues affected the thinking of the framers of the *Declaration of Independence* and the *U.S. Constitution*, and discussing what all of this might mean for decision making about contemporary constitutional issues. In general, I believe we need to construe students more as consumers than as producers of discipline-based knowledge, and to plan and teach topics with an eye toward why they are included

in the curriculum and when and how their big ideas would be applied in life outside of school.

Q. How well are educational psychologists training teachers to work with individual differences such as students with learning disabilities?

A. I believe that educational psychologists have made important contributions by designing prototypical learning activities and computer software for use by special students and by developing applications of self-regulated learning, cooperative learning, and other techniques that help teachers cope with the demands of heterogeneous classrooms. However, as someone who has studied teacher expectation effects and self-fulfilling prophecies, I am concerned with the mushrooming of the special education establishment as a legal and political movement steeped in the language of “qualifying” students as clients eligible to receive “services.” (I refer here not so much to university-based researchers as to special education parents’ organizations, their lawyers, and purveyors of assessment instruments and instructional materials of dubious value.)

Thirty years ago, if I asked a typical teacher about, for example, a hyperactive student in her class, she would say something like “He’s a little antsy, but I’ve been working with him on controlling it, and if necessary, I can always send him on an errand or do something else that allows him to move around a bit and dissipate his excess energy.” Now, however, a comparable teacher is more likely to say something like, “He’s an ADD kid. He takes Ritalin, but he’s still a problem, and I’m not qualified to meet his special needs. I think he belongs in a special education room.” In a few decades, the same behavior has shifted from being viewed as a minor deviation from the norm by teachers who feel competent to handle it through minor adjustments in their overall approach, to being taken as evidence that the student is qualitatively different from “normal” students and needs both medication and removal from the regular classroom. Along with its other effects, the labeling frenzy has shrunk the spheres of perceived self-efficacy of regular classroom teachers.

This might not be so bad if special education labels were more like most medical diagnoses—grounded in scientific understandings of the causes and progress of the disease or disability and leading to prescription of validated treatments of choice for curing the problem, minimizing its effects, and/or helping the person cope with it. However, except for the small percentage relating to blindness, deafness, or other sensory or motor deficits, special education labels are mere symptom descriptions. They are not functional diagnoses founded on clear understandings of the nature and course of the problem and tightly linked to treatments that interfere with this trajectory

and eliminate or at least control the problem. Affixing a student with a special education label rarely results in label-specific treatment, and even when it does, there usually is little or no scientific basis for understanding how or why the “prescription” should improve the situation, or even for having confidence that it will. Consequently, I believe that much of what goes on in the name of special education is counterproductive, and some of it is fraudulent. I believe that along with helping teachers cope with classroom heterogeneity, educational psychologists ought to be opposing label-creep and related excesses of the special education establishment.

More generally, I believe that educational psychologists should look first to developing generic principles rooted in the commonalities of the human condition, and only secondarily to issues associated with individual and group differences. History and psychology suggest to me that people are and always have been much more alike than different. This implies that principles derived from educational psychology (e.g., motivational strategies) ought to apply to people in general, regardless of age, gender, social class, race, cultural background, or personal characteristics. Certain principles might be more applicable with certain students (e.g., younger ones rather than older ones) or in certain situations (e.g., in whole-class vs. small-group vs. individual learning contexts). Whenever the principle is applicable, however, it should have the same implications for practice (i.e., that motivational strategies consistent with the principle are advisable and contradictory strategies are not). Thus, adapting strategies to students’ individual needs and experiences should mostly involve adaptations of a common set of basic principles. I do not see a scientific basis for proceeding on the assumption that separate sets of motivational principles (or instructional principles or psychologies generally) are needed to understand and work effectively with students who differ in age, gender, or cultural background, or for students who carry special education labels.

In this regard, another place that educational psychologists have helped provide grounding for the larger field has been in calling for *zeitgeist* ideas to be assessed scientifically, with emphasis on clarifying their underlying theories and generating appropriate empirical data to assess the trade-offs involved in adopting them. Educators without such grounding are too easily accepting of enthusiastically presented ideas (typically accompanied by assessment instruments and instructional materials) about brain-based or holistic teaching, developing multiple intelligences, or matching students’ learning styles. Concepts such as cognitive styles or multiple intelligences can be helpful if adopted only loosely and used primarily as reminders of the value of including a variety of learning activities and formats in the curriculum. However, scientific validity and practical feasibility problems arise if such concepts are emphasized to the extent of seeking to develop

curricular prescriptions for each individual student. For one thing, accommodating students' preferences is not the same as meeting their needs, because it sometimes increases satisfaction ratings but decreases learning. Furthermore, matching students' learning styles or preferences does not serve their long-run best interests if pitching to their strengths denies them opportunities to develop in their areas of weakness. Learners ought to be prepared to adapt to the full range of commonly encountered learning and application situations, not encouraged to think that they can learn visually but not auditorily, that they can analyze but not synthesize, that they can only study under certain conditions, and so on.

Q. Are we using the wealth of information about children's learning that has been developed by educational psychologists?

A. Much of it, but not all of it. Taking a long view, I would argue that most of today's classrooms are much more physically and psychosocially attractive learning environments, in which instruction is much more focused on understanding than on rote learning, than was true 100 years ago or even 50 years ago. However, some of what we know is not being used in typical classrooms. In some cases, this is because the knowledge is not very relevant or applicable—it focuses on exploratory and largely incidental learning or some other kind of learning that contrasts sharply with the classroom's focus on a prescribed curriculum.

In other cases, the problem is cost and the politics associated with it. We know that smaller schools with smaller classes would be improvements over what we have now, as would assessment approaches that addressed a much broader range of desired outcomes than knowledge retention using a much broader range of instruments than standardized tests. However, these school improvements are more costly than most communities are able or willing to pay.

Our options also are limited by societal realities that we cannot control, most obviously the de facto segregation of neighborhoods along racial, ethnic, and (especially) socioeconomic lines and the effects of this on the resources and constraints found in particular schools. But we can't let these things get us down. We will do the most good in the long run if we put most of our energies into developing principles for optimizing education and for making the best of the situation when the optimal is not possible.

Q. Why do teachers consistently have problems motivating students?

A. What we know about optimal conditions for motivation is difficult to apply in classrooms, for several reasons. First, school attendance is compulsory, and curriculum content and learning activities are selected primarily

on the basis of what society believes students need to learn, not on the basis of what students would choose to do if given the opportunity. Schools are established for the benefit of students, but from students' point of view, time spent in the classroom is devoted to enforced attempts to meet externally imposed demands. Second, teachers usually work with classes of 20 or more students and therefore cannot always meet each individual's needs, so some students are often bored and others are often confused or frustrated. Third, classrooms are social settings in which much that occurs is public, so that failures often produce not only personal disappointment but public embarrassment. Fourth, students are graded, and periodic reports are sent home to their parents. Finally, teachers and students often settle into familiar routines that become the "daily grind" as the school year progresses, and activities that were designed as means for moving students toward larger curricular goals tend to become ends in themselves. School reduces to covering content (for the teachers) and completing assignments (for the students), instead of engaging in teaching and learning guided by a bigger picture structured around major curricular goals and intended outcomes.

Educational psychologists interested in motivation often give teachers advice that ignores these realities, for example, focusing on intrinsic motivation as the goal and advising teachers to maximize student autonomy and choice. I believe that the constraints under which most teachers work make it unrealistic to adopt intrinsic motivation as the model of student motivation that one seeks to maintain on an all-day, everyday basis. It is more realistic for teachers to seek to develop and sustain what I call motivation to learn, which I define as a student tendency to find academic activities meaningful and worthwhile and to seek to get the intended learning benefits from them, whether or not they find the content interesting or the processes enjoyable. I elaborate on what this might mean in my textbook writing about motivation (Brophy, 1998; Good and Brophy, 2003).

Another part of the problem is imbalance in the aspects of motivation that have received sustained attention from theorists and researchers. In my view, a robust model of motivation for learning includes principles addressing three major aspects of learning situations: (1) the social milieu in which the learning takes place (especially, the degree to which it is supportive vs. threatening); (2) the learner's attributions, expectations, and self-efficacy perceptions (prospects for achieving learning goals, implications of success or failure); and (3) the degree to which the learner values the opportunity to engage in the learning activity and acquire the knowledge or skills that it develops. To date, we have generated a great deal of useful theory and many guidelines for practice concerning the first two of these major aspects of motivation for learning, but remarkably little research or even theory on the third aspect.

What can we tell teachers about how to teach a topic in ways that motivate students not only to remember key ideas but to appreciate the topic, value it, and want to learn more about it on their own? The current knowledge base does not take us very far in addressing this question. We know that the content and learning activities need to be matched to the learners' cognitive levels and otherwise be meaningful to them, that a supportive and collegial social context is desirable, and that extrinsic pressures or incentives should not be used in ways that undermine intrinsic motivation. But we don't know much about how to induce and nurture appreciation for topics or activities. In my textbooks and in a recent article (Brophy, 1999), I draw on relevant theory and research to identify some ways in which teachers might socialize their students' values and develop related motivated learning schemas with respect to content taught at school. Suggestions include extending the concept of zone of proximal development to the motivational sphere, helping students see connections between school content and their personal identities and agendas, and using modeling, coaching, and feedback to scaffold students' motivation along with their learning.

Q. What are you presently working on?

A. Much of my work in recent years has focused on primary-grade social studies, an area of the curriculum that has received relatively little scholarly attention. This work attempts to bring to early elementary social studies the same combination of components that has proven successful in development and research on several other school subjects: an emphasis on teaching for understanding; a content base structured around big ideas and developed with an emphasis on those ideas and their applications; a focus on domain-specific content and pedagogy; and research that simultaneously addresses curriculum, instruction, and assessment issues, using methods developed in the design experiment and reflective practice paradigms. Done in collaboration with Janet Alleman, this work involves two lines of research.

The first includes developmental studies of what K-3 children know (or think they know) about human activities relating to the cultural universals (food, clothing, shelter, communication, transportation, etc.) that are emphasized in the early social studies curriculum. This information is needed both to establish valid prior knowledge that can be built upon and to identify common misconceptions that need to be addressed in instruction. Summaries of findings from early studies in this line of research are available in article form (Brophy and Alleman, 2000, 2002a,b), and extensive technical reports of the findings from all of the studies are available through the ERIC system.

Along with these developmental studies, we have done educational studies in which units on cultural universals are constructed around big ideas

(Alleman and Brophy, 2001, 2002, in press) and then implemented in first- and second-grade classrooms. In collaboration with a talented teacher who does the initial implementations, we have been observing and audiotaping the teaching of these units and then studying the transcripts to address such issues as how teachers might achieve an effective balance between transmission and constructivist teaching with students who are both young and limited in prior knowledge, the use of fictional and nonfictional children's literature selections, and extension of the curriculum through home assignments that engage parents and children in affectively bonding and efficacy-building interactions around social studies content (Brophy and Alleman, 2002a).

Perhaps of more direct interest to educational psychologists are my motivational works described earlier and my contributions on two significant topics addressed in recent volumes published in my *Advances in Research on Teaching* series. The eighth volume in this series (Brophy, 2001) looks at the generic and subject-specific approaches to teaching, treating these purviews as complementary rather than antagonistic. The volume begins with my own synthesis of the state of the art of our knowledge about good teaching, structured around 12 generic principles. In subsequent chapters, scholars representing 14 school subjects (beginning reading, content area reading and literacy, writing, number, geometry, biology, chemistry, physics, earth science, history, physical geography, cultural studies, civic education, and economics) consider the applicability of these generic principles to instruction in their subject, then go on to characterize more subject-specific aspects of good teaching in their subject. In a concluding chapter, I address concerns that some authors raised about my generic principles and then discuss their chapters. In the process, I show that many issues treated as subject-specific often have more generic applicability (e.g., the topic of representations is given considerable emphasis in writings on mathematics education, but comparable representation issues apply in the teaching of all subjects).

The most recent volume (Brophy, 2002) addresses the affordances and limitations of social constructivist teaching. The decision to develop a volume on this topic was prompted by two concerns. First, I perceived that most scholarly writing on the social construction of knowledge has focused on epistemological issues and on learning rather than on teaching. Consequently, I elicited contributions from people who have developed social constructivist approaches to teaching, and asked them to focus on teaching in developing their chapters. Second, my work in early social studies had led to the belief that it is difficult to rely heavily on social constructivist approaches to teaching when the learners are young (because they often respond to questions with stories that they want to tell, and in the process often move increasingly farther away from the topic) and when their prior knowledge about the topic

is severely limited (so that they often are unable to answer questions or answer by verbalizing multiple misconceptions). Adapting language borrowed from Jacob Kounin, I described the resulting lessons as displaying unacceptably low signal- (valid content) to-noise (irrelevant or invalid content) ratios.

Consequently, I asked the chapter authors to comment on both the affordances and the constraints of social constructivist approaches to teaching. Points that I emphasize in my discussion chapter include the following: Social constructivist teaching needs to be contrasted not only with transmission teaching but also with superficially similar forms of teaching that engage students in discussion or hands-on learning activities but without orienting them toward clear learning goals, scaffolding their progress, or holding them accountable for goal attainment; the authors varied considerably in their beliefs about the spheres of applicability of social constructivist teaching and the possibilities for moving back and forth between social constructivist teaching and other forms of teaching; some authors emphasize the interactions that occur in pairs or small groups as much or more than the interactions that occur in whole-class discussions, and some emphasized the nature of the task or activity as much as the discussion that occurs within it; some models were informed primarily by sociocultural theory but others primarily by principles for establishing learning communities in the subject areas, and many included strong emphasis on inquiry learning as well as social constructivist teaching; the authors differed considerably in their beliefs about the degree to which students could accomplish key goals working primarily on their own versus requiring sustained teacher structuring and scaffolding of their learning; and the authors differed considerably in their views on what constitutes appropriate assessment of learning progress and on the degree to which they collected and responded to outcome data. I believe the book places social constructivist teaching into perspective and identifies important issues that need research attention.

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