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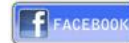
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Berube, Clair (2010). *The “X” Factor: Personality Traits of Exceptional Science Teachers*. Charlotte, NC: Information Age Publishing.

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Reviewed by Bruce Palmquist
Central Washington University

“I cannot prove anything here. I can only seek to explain what makes an inspirational teacher, and in doing so, relay how utterly important this aspect of teaching is in American classrooms.” (p. xvii)

New teachers need to show competency in an ever increasing set of standards before moving on to their own classroom. According to the National Council for Accreditation of Teacher Education, teacher candidates must “know and demonstrate the content knowledge, pedagogical content knowledge and skills, pedagogical and professional knowledge and skills, and professional dispositions necessary to help all students learn (NCATE, n.d.)”. Except for “professional dispositions”, which are difficult to define and assess, there is no mention of

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personality traits in the NCATE standards. Yet all of us can point to one or two teachers who helped us to succeed so much more than did their colleagues with training from similarly NCATE-accredited schools. Is there something that makes these teachers so much more exceptional? That is what the title indicates Clair Berube will tell us.

However, as the opening quote indicates, this compact book does not directly address exceptionality but rather, inspiration. Even though this book is aimed at the teaching of science, teachers and teacher educators of all disciplines will learn about the personality traits of inspirational teachers. But those readers looking for extensive peer-reviewed research to back up why these traits support exceptional teaching will likely be disappointed.

There are two main parts of the book called “What do the experts say” (a review of the literature) and “What matters” (the application of the research to teaching). In her literature review, Berube provides a short overview of a variety of topics such as personality traits, self efficacy, self reflection, and empathy. The findings of various personality inventories get the most coverage of any type of “research” tools used in the book. I put the word “research” in quotes because of the author’s over reliance on 1) information from self-reporting inventories such as the Myers-Briggs, 2) the findings of popular authors such as Malcolm Gladwell, and 3) Wikipedia as a reference source. In her review of the literature, the author makes explicit mention of a possible X-factor only twice. In the chapter called “Dispositions and Personality Traits”, Berube states that the X-factor is related to “this fuzzy disposition thing” (p. 4) that needs to be stressed as much as content training in teacher education programs. In the chapter called “Teacher Self Efficacy and Content Knowledge”, a characteristic called practical intelligence gets listed as an X-factor (p. 26). According to Berube, practical intelligence is knowing what to say, how to say it, and when to say it

The first chapter in the “What Matters” section is the highlight of the book: interviews with and vignettes about many well known educators and authors. Although Berube titles the chapter “Our Favorite Teachers”, it is clear she is writing about her favorite teachers. The “our” refers to the fact that some of the people she features discuss their teacher role models, as well. Berube starts off telling us

about her own background in education and some of the people who influenced her directly. Then she spends one to three pages on each of her favorite teachers ranging from Howard Gardner to Malcolm Gladwell to Albert Camus to the person she writes the most about, Neil DeGrasse Tyson. At the end of the chapter, Berube lists many traits that her favorite teachers and their favorite teachers had in common. This list of traits, most of them falling under the big heading of the emotional attachment an effective teacher has with her students, is the clearest and most comprehensive list of X-factor candidates in the entire book.

Throughout the rest of the book, Berube attempts to apply the research about teacher traits to determining the X-factor. But, the chapters often stray from the topic. For example, the chapter titled “The Beauty of Science Teaching” covers American anti-intellectualism, our short school year, our poor work habits, and how females in America are discouraged from studying math and science. Then the chapter reveals evidence of beauty in science such as fractals and string theory. Berube finally mentions teaching near the end of the chapter but only in the context of considering students beliefs in science when teaching science. The chapter on self-efficacy contains a three page vignette that barely touches on self-efficacy but describes in detail how the author teaches certain physics concepts. Berube concludes the chapter called “Self Reflection/Values” with her view of how religious dogma has usurped the values education.

In the chapter called “Charisma and Science Teaching Case Studies”, Berube describes an instrument called the Affective Communication Test (ACT), a thirteen question, self-administered survey that measures the “ability to send emotion, to be contagious” (p. 78). Malcolm Gladwell used the ACT to provide evidence for the relationship between charisma and general success in his book “The Tipping Point”. In order to determine whether or not there is a relationship between charisma, as measured by the ACT, and exceptional teaching, Berube gave the ACT to ten award-winning teachers: nine colleagues and herself. The nine teachers had an average score of 98.2 out of 117, in the 95th percentile of the general population. Berube cites this as strong evidence for charisma being a trait of

exceptional teachers but she stops short of calling this an X-factor.

Berube's goal was to "explain what makes an inspirational teacher" (p. xvii). While she proposed many X-factor traits such as practical knowledge and charisma, Berube would have strengthened her conclusions with a stronger research methodology. Although Berube stressed the importance of rigor in science teaching, she used Wikipedia for background information on fractals, Myers-Briggs, Frank McCourt, and the Mandelbrot set. She based her conclusions on the charisma-teaching connection by giving her nine hand-picked colleagues a survey and then scoring it herself. She often cited her own publications that were only tangentially related to the main topic of the chapter, rather than appeal to external research support. By the time Berube finally presents the X-factor on the last page of the book, the reader is left with good ideas about the personality traits of exceptional teachers but few supportable conclusions.

Reference

National Council for Accreditation of Teacher Education. (n.d.). *Unit Standards in Effect 2008*. Retrieved from <http://tinyurl.com/6h7fuff>.

About the Reviewer

Bruce Palmquist is a professor of science education and physics at Central Washington University in Ellensburg, WA, where he teaches science education, physics, and astronomy. He was the 2005 Washington Professor of the Year, awarded by The Carnegie Foundation for the Advancement of Teaching.

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Editors

Gene V Glass

glass@edrev.info

Gustavo Fischman

fischman@edrev.info

Melissa Cast-Brede

cast-brede@edrev.info
