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Reflecting on the Role of the Hand, Head, and Soul of America: The Mind at Work

The Mind at Work: Valuing the Intelligence of the American Worker, by Mike Rose, New York: Viking, 2004, 249 pp., $24.95 (paper).

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The Mind at Work: Valuing the Intelligence of the American Worker (*TMW*), by Mike Rose (2004), is an engaging and timely book on the complex cognitive behaviors involved in work that is often considered "low skill" or "unskilled." It is about blue-collar work, blue-collar workers, and the significance of technical education. It is also about how contemporary America regards the manual work "of the hands" in comparison to the intellectual work "of the head," by ascribing greater social standing, job security, and pay to those who perform work with ideas, figures, and words rather than things. Some of the workers we meet in *TMW* are family members of the author, whereas others started out as participants in Rose's observational studies of professional work and technical education. The book invites us to do two things. First, Rose encourages the reader to appreciate the social, technical, and aesthetic prowess that manual laborers exhibit on a regular basis. By making us stop and take notice of the ordinary, Rose hopes to expose the extraordinary thinking that goes into everyday tasks. I was reminded of the way artistic installations of Marcel Duchamp make one look anew at the craftsmanship of everyday objects such as shovels, toilets, and bicycles by placing them on display and out of their camouflaged context. Second, Rose urges us to reexamine our views of work and workers, particularly as they shape societal values, class structure, and the objectives for public education in the United States. In making these arguments, Rose adroitly reaches across a variety of theoretical and methodological perspectives, including cognitive, developmental, sociological, cultural, economic, and historical traditions.

The book makes at least four essential points. First, with respect to cognition, Rose shows that all forms of work, manual as well as managerial, draw on complex cognitive and social skills. Much of that complexity is hidden from view and requires a keen eye, persistent observation, and thoughtful conversation to draw them out. Through this book, we acquire some of the background knowledge necessary to reframe outmoded notions of intelligence, and we learn to notice and appreciate the complex skills of workers who may have minimal formal education. Second, with respect to society, Rose shows that our preconceptions about the intellectual demands of work are

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often shaped not by our understanding of the knowledge and skill required to conduct this work effectively, but by the social and economic status of that work and of those who typically perform it. Third, with respect to identity, Rose shows that our work shapes how we are perceived and how we perceive ourselves. Work can be liberating and personally validating. But by tying intellectual and social status to one's form of work, we often unfairly and inaccurately stratify our society. Fourth, with respect to education, Rose shows that the educational system is in a precarious position. On the one hand, it is the principal mechanism for upward mobility and democratic participation. On the other hand, education reinforces many stereotypes about intelligence and withholds the learning experiences that some students need to advance economically and socially.

Rose's first case study shows the cognitive demands of waitressing, building on an earlier article, "The Working Life of a Waitress" (Rose, 2001). He describes that article as "an homage to a particular waitress," his mother, and "an argument for the complexity of everyday work and for the multiple disciplinary perspectives and kinds of knowledge needed to appreciate that complexity" (p. 3). Rose knows waitressing, having observed it up close from the back of the restaurant where his mother worked. He developed a keen eye and vivid memory for her complex behaviors, which he supplemented with taped interviews of his mother years after she retired, as well as observations and interviews of current waitresses and published accounts in the research literature.

To be effective, Rose reports, a waitress needs numerous bodily skills (stamina, balance, strength) plus memory and attention-management skills to deal with multiple and conflicting demands, all while navigating a semistructured but continually changing physical environment. In addition, waitresses make their living from tips, and so they must be diplomatic, helpful, patient, and likable. All of this must be integrated in some executive way so that there is, as Rose describes it, an "economy of movement" (p. 8) that allows the waitress to accomplish tasks rapidly and yet professionally—without running (or seeming to), slamming plates, or yelling across the restaurant. To accomplish these many goals, waitresses depend on their memory and knowledge, their routines and the social climate, and the physical layout of the restaurant. Rose's portraits help us understand how waitressing is cognitively demanding. He also shows how waitressing contributes to one's identity. In the case of his mother, waitressing provided financial autonomy, a sense of self-efficacy, and a natural way to be "among the public" (p. 27).

Rose takes us next to the world of professional hairstylists. The competent hairstylist takes vague descriptions, feelings, gestures, and images from customers and converts them into a design that suits that person's hair, head, and lifestyle. The stylist then implements the design in an aesthetically appealing way, using different tools and techniques. The stylist must have an understanding of the structure of hair, and knowledge of an array of chemicals for treating hair and sculpting it. Experienced hairstylists, like experts more generally, exhibit a level of fluency—cognitive psychologists often call it automaticit—where their attention and actions operate nearly without conscious awareness. The scissors become an extension of the hand, for example, and the stylist thinks not of how to achieve a certain cut but of how to achieve a look. Yet Rose points out that what might pass as the unconscious behavior of low or unskilled work is a myth. There must be constant monitoring of these automated routines to accommodate the uniqueness of every customer. The successful hairstylist does not get lost in the technical details or the specifics of a prespecified plan but is guided by general goals and aesthetics as well as frequent reevaluation and communication with the client.

When Rose takes us into the areas of plumbing, carpentry, and electrical wiring, we also move into the realm of career and technical education, dominated more by hardware and by men. In this

part of the book, most of the people we meet are teens and young adults who share their views of what technical education can do for them. The teens in the plumbing cases are all in the juvenile justice system. It is here that we meet Jon Guthier, a mentor and a technical educator. Guthier oversees these teens as they make repairs in city housing projects. He communicates knowledge to them "on demand," situated in the contexts in which it is of value, in a way that helps learners think systemically about their projects. Guthier also instills a sense of workmanship that addresses both the technical and aesthetic aspects of the work. His is a program that seems to deliver all we could want: Teens from chaotic home environments with little adult guidance receive structure, valuable professional skills, a sense of accomplishment, and contact with a caring and supportive adult. Through Rose's vividly drawn examples, we can see how these young people gain not only skills but also an increased sense of agency through their structured encounters with the material world.

The chapters on carpentry and electrical wiring address learning in more conventional career and technical education settings. The importance of technical skill and aesthetics are reprised here, as are the value and personal fulfillment of work. There are also insights about how various tools serve as physical embodiments of mathematical knowledge, customized for their utility. In addition, Rose points out the importance of numerous types of representations—symbolic and graphical forms that are meant to stand for concepts, objects, and procedures—to support design and problem solving. For instance, students can be seen working with both symbolic and physical manifestations of circuits as they trace through a problem with an electrical assembly, using each to build logically tight chains of causal reasoning, form testable hypotheses, and generate predictions and actions. From a cognitive perspective, this is scientific inquiry and mathematical problem solving at its best. Yet, Rose reminds us, we most often understand wiring and woodworking not in the domain of learning but in the lesser realm of application.

Rose has much of value to say about vocationally oriented education. As he sees it, vocational education in the United States faces a fundamental paradox: Public education is entrusted with the cognitive development of our youth, but in practice we restrict that development for those who opt for a technically oriented education. Courses in technical education are rich with physical, practical, situated, and collaborative attributes of learning—exactly the sorts of things called for in current educational reform—but these same learning settings are often completely devoid of theoretical and formal content. Rose provides a brief and useful history of vocational education in the United States and shows that our narrow approach is historically rooted. Our conceptions and practices of vocational education reinforce stereotypes about intellectual development that should instead be dismantled by an educational system.

Despite contemporary rhetoric calling for greater integration between technical and academic education in what is now called "career and technical education" (CTE)—and despite the rare instances Rose cites that seem to achieve this integration—there are still significant barriers between CTE and academic education. There is, for example, little exchange of content across programs. Mathematics teachers do not generally discuss trigonometry with shop teachers, working to ground abstract concepts and procedures in shop work. These are missed educational opportunities because such collaboration could support students' conceptual and career development. Rose himself does not mention it, but it is also the case that many so-called well-educated people are unable to attend to the most basic maintenance of their physical environment—not because of their intellect but because of inexperience and social expectations about getting one's hands "dirty."

We should not be surprised at these missed opportunities. Integration of "academic" and "vocational" education will be difficult for various reasons: "Turf battles" across departments as schools strive to implement curricula that bridge traditional subject areas, such as science, literacy and history; new demands placed on teachers' knowledge and pedagogy; and the organizational impediments of existing curriculum guidelines, high-stakes testing, expectations from parents and the community. CTE reform faces many of the same challenges as other current educational reforms. Yet it also appears that CTE has an additional challenge. It must alter deeply held beliefs about who can learn what. Rose is blunt in his assessment: "My sense is that, with a few exceptions, most policy and curricular deliberations about vocational education have embedded in them assumptions of cognitive limitation" (p. 185). Over and over again, this book, which honors work and the minds of the people who carry it out, reveals our entrenched beliefs about the inherent and unchangeable quality of intelligence and the cognitive capabilities of those who come from low-SES backgrounds.

Despite his critical perspective on this topic, Rose is also optimistic. He can envision a system of education that equates the intellect required for manual work with the skills of professionals. To enact such a vision, however, educators must acknowledge the separation between a student's poor performance to date and the student's intellectual potential. This means challenging the assumption that poor academic preparation forever bars one from sustained, cognitively demanding activity. It will take considerable work for educators to create programs that integrate knowledge of the workplace with academic content. Rose portrays such an undertaking as a social movement that requires effort and change beyond the educational community. The dichotomy between the hand and the brain, and the correlated assumptions about social status, have extended far beyond schools for a very long time. Ultimately, *The Mind at Work* can be seen as a book about the soul of contemporary America, and the challenge that lies before us: to transcend our dichotomized views about work and intelligence so that we may see thinking and the growth of each human mind in a new light.

REFERENCES

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