

5 Psychotechnical Schools and the Future of Educational Expertise

Tracing cross-sectoral relationships in the fabrication of new curricular models is revealing, but it obscures a more subtle set of networks of relations that are facilitated by governance. These are the connections that are now brought about between concepts, ideas, visions, and the sources of expertise that promote them. As a result of soft governance, the curriculum of the future is subject to a proliferation of voices of apparent authority and the forms of specialist expertise, theories, ideas, philosophies, and other forms of knowledge they promote. Expertise creates the explanations and interventions that constitute a style of thought.

This chapter examines what sources of expertise and what professional knowledges are now being brought together as a style of thought for intervening in the makeup of the new curriculum. Two main expert groups now seem to be controlling the agenda for the curriculum of the future: psychologists and computer scientists. What style of thought do they deploy? What kind of politics and values are catalyzed by the deployment of their professional expertise in curriculum design?

The Expertise Explosion

The curriculum is the result of ongoing contests and negotiations over official knowledge. It relies on particular authorities to give it legitimacy. Yet the imaginary curriculum of the future articulated in many current curriculum projects depends on very diverse sorts of authority, much of it assembled as a messy juxtaposition of different voices. Authority over the concepts and principles of the curriculum has proliferated to include all sorts of dispersed sources and influences. This dispersal of authority is a micro-level refraction of social changes in the government and expertise of everyday life.

Sociologists have already begun to show that in many aspects of daily life we turn to highly diverse sources of independent authority and formally autonomous expert opinion. The way we think draws upon the expertise, vocabulary, theories, ideas, philosophies, and other forms of knowledge that are available and “speak to” us. According to many theorists, political and economic power elites no longer simply exert their governmental powers over the population by force or coercion. Instead, society is governed by a highly diverse network of institutions, programs, and techniques that have translated the needs of society into the personal concerns and mentalities of each individual of the entire population.¹

In such a society we are all encouraged to take more responsibility for ourselves, and the human sciences provide much of the expertise we use to make sense of our everyday lives. Psychology, medicine, and economics are formal sources of such authority. More mundanely, self-help experts, diet experts, and money-saving experts help transport these authorities into daily life. Moreover, today it seems that there has been an explosion of

expertise as the Internet has allowed formerly expert knowledges to escape formal professional control. The experiential expertise of “lay experts” generates and authorizes its own knowledge through Web communities that mediate professional expertise “at a distance.” Schools, too, translate various voices of authority into programs and practices that work upon the minds and mentalities of the young.²

This means we need to be on the lookout for the “little experts” to whom authority is now increasingly accorded. These little experts, the experts of everyday experience, act as mediators who translate big ideas and styles of thought such as those of governments into the mundane and distant concerns, aims, anxieties, and aspirations of individuals. In economic life, for instance, the economic fates of people are understood as a function of their own particular levels of enterprise, skill, inventiveness, and flexibility. Consequently, each individual is solicited as a potential ally of economic success, and people are encouraged be “self-enterprising” and to invest in the management, presentation, promotion, and enhancement of their own economic capital as a “lifelong project.” Through little experts, powerful capacities can work at a distance to align the objectives of authorities with the thoughts and aspirations of individuals.³

In professional activities like educational reform, the mediating role of the little expert is often played by a particular kind of policy specialist, or an intellectual worker. The intellectual worker is an enabler, fixer, catalyst, and broker of ideas, rather than a formal policymaker. Their ideas are “vehicular” or “propellant”—in other words, they move things on. Vehicular ideas are typically concerned with small-scale creative innovations, carried out in collaboration with a variety of constituencies and by means of a juxtaposition of people and ideas in order to bring

about something new. Vehicular expertise, then, is not concerned with the grand schemes of big legislation but with practical, usable, marketable ideas capable of arousing attention and propelling the buzz of creativity and innovation. Such expertise contributes to a constantly mobile, creative culture of new ideas, new innovations, and intellectual creativity.⁴

In terms of curriculum reform, the mediator may be understood as taking big, abstract ideas such as the knowledge economy or globalization and turning them into practical programs. The mediator links the general to the particular and shifts a way of thinking from its original source of authority to a multitude of distant places. In so doing, the mediator juxtaposes certain kinds of expertise and seemingly authoritative ideas, bringing them together in order to get things moving. What kinds of professional expertise and intellectual creativity are associated with the design of the curriculum of the future?

Edu-Experts

These mediators are now importing new sources of authority and expert knowledges into public education. The new educational mediators are edu-experts who bring forth with them good ideas that envision and position schools and seek to “make up” the curriculum and construct learners and teachers as new kinds of individuals. The edu-experts behind new programs imagining the curriculum of the future speak a language of curriculum—worked through the rationale of innovation and creativity—that set parameters on and perimeters around the possibilities of classroom action and practice.

A surge of new vehicular ideas for innovative educational reforms have been propelled by the “policy intellectuals” of

think tanks, NGOs, nonprofits, and other cross-sectoral agents and agencies. The “ivory tower” intellectual expertise of scholars and the formal authority of government-appointed experts have been increasingly marginalized as these new intellectuals cast about for ideas that seem as though they might work.⁵

The field of educational technology has been especially propelled by the ideas of a range of actors from across fields of education and learning, media, computer science, and from nonprofits, Web startups, and commercial R&D labs. Educational technology certainly has its gurus and talismanic leaders, but it is also a field constantly moving forward through the juxtaposition of new people and new ideas. Indeed, as already seen, the informal learning of young people in mediated environments is now regularly held up by these actors as itself a legitimate source of expertise for curriculum reform—a digital and youthful form of everyday experiential “lay expertise.”

Curricula of the future are all the products of mediators, intellectual workers, and little edu-experts, who are propelling big abstract problems like globalization and technological change into the intellectual center of schooling. Formerly within the purview of the appointed experts of formal education systems, the curriculum of the future is now in the self-appointed expert hands of cross-sectoral intellectual workers who bring into the process of curriculum design a new set of techniques for getting things done and a new set of intellectual sources for thinking about the purposes and objectives of the curriculum.

Often these sources of expertise can be detected by tracing the intertextual links made by key curriculum texts with other external texts. A good example here is the Learning Futures report “Engaging Schools.” In this publication, direct references are made to the US-based Partnership for 21st Skills (from which

it cites the need for schools to promote new skills of collaboration, information literacy, and adaptability); a report on the “nature of learning” by the multilateral OECD; a think piece from a leading British conservative think tank and another from a think tank associated with the political opposition; a report from the British government schools inspection office; some key “meta-analyses” of research on cognition and technology from the fields of psychology, computer science, and the learning sciences; and a report on innovation in education commissioned by the multinational computing firm Cisco. In addition, the organizations behind Learning Futures have collaborated with High Tech High in San Diego to produce a guide to project-based learning.⁶

The actual references here are not as important as the expertise that they too rely on. Behind each of the references lies a repertoire of expert sources and selections from authoritative professional knowledge. This single example gives some indication of the ways in which the curriculum of the future is assembled from a messy and heterogeneous mix of references and authorities, each offering its unique expertise, enrolled from local, distant, and globally mobile sources. Fields of academic expertise, think tank opinion from different political perspectives, and corporate knowledge are all mixed together to constitute a depoliticized, cross-sectoral, transnational language of learning and innovation in the global dynamics of the twenty-first century.

The various originators of the new curriculum programs are mediators and little experts who catalyze and move their vehicular ideas through a variety of relationships. Behind many of these ideas lies the authority of a particular form of expertise. That is, the expertise of psychology. It is primarily by working

through the ideas and expertise of psychology that the curriculum of the future can shape the minds, mentalities, and identities of students.

Making Up Minds

The new experts of curriculum reform are “little engineers of the human soul” rather than the “cold monster” of central government and departments of education. They are minor figures whose knowledge and practices seek to normalize particular ways of thinking, acting, and feeling in schools—to “make up” particular kinds of students. According to this theory, individuals are understood and “made up” as certain kinds of people through various kinds of knowledge and techniques. Schools and curricula act as apparatuses that accord to students all kinds of new possibilities of perception, motivation, emotion, self-reflection, and so on. Little experts in the field of education, then, have the power to shape how we understand students as people with particular competencies and capacities, a task they have done through the knowledge, authority, and techniques of psychological expertise.⁷

These little engineers of the human soul bring with them into the imagining of the curriculum a particular conception of the schoolchild (or an idea about who the schooled child should be), along with interventions to act upon them. These curricula construct the child not as a passive recipient but as an active producer of knowledge. Q2L, Enquiring Minds, New Basics, and the rest all talk about active learners and knowledge producers in dynamic systems, relations, and communities of practice. Recall that High Tech High refers to its organizational “soul.” What is at stake here is a reengineering of both

organizational souls and human souls. Through expertise the values and goals of the educational organization, and the authorities on which they rely, are brought into contact with the dreams and actions of children. Political, social, and institutional goals are aligned with individual pleasures, desire, and happiness. Contemporary curriculum design works through the deep inner soul, interior life, and habits of mind—the emotional and affective state of personal development—of the whole child understood as an “active learner,” a “constructivist learner,” and an “autonomous learner,” and it mobilizes appropriate “interactive pedagogies”:

In interactive pedagogy . . . the teacher teaches by adapting the material to the child's momentary interests and imparts information that is set by the children's questions. This pedagogy requires the teacher to respond flexibly to the child's feelings, words, and actions. . . . Interactionism constructs both a response-able/-ready child and a response-able/-ready teacher. . . . Interactionism . . . can be characterized as fluid, dynamic, situation responsive, pragmatic and virtual.⁸

Flexible interactive pedagogies that respond to the dreams and actions of the child are now the preferred pedagogies of the curriculum of the future, as defined by the expertise of a host of little experts and engineers of the human soul.

The emphasis on “inquiry” in many prototypical curricula of the future is a good example of the new pedagogical expertise of the soul. Inquiry is a very particular form of knowing. It has its roots as an educational concept at least as far back as Dewey but has attained particular significance as a way of knowing in a dynamic networked era. Futurelab's Enquiring Minds emphasizes inquiry as a way of knowing that is necessary in a complex informational environment where it is more important to know how to seek and how to analyze information than to

acquire and retain basic knowledge. The task for teachers in an inquiry classroom is to listen and respond to students, adapting flexibly and fluidly to their interests and questions accordingly. Inquiry learning and interactionist pedagogies are mutually interdependent.

Quest to Learn and Learning Futures have generated the same kind of pedagogies. Learning Futures views inquiry as research, experimentation, problem solving, and evaluating information, while Q2L's "evidence-based inquiry curriculum" is modeled to drop learners into "inquiry-based, complex problem spaces that are scaffolded to deliver just-in-time learning." The capacity for inquiry is not, though, a natural and latent part of the character of students, just waiting to be set free once the conventional curriculum has been cast off. Inquiry, like creativity, needs to be promoted, encouraged, managed, and finessed, and the ideal pedagogy for accomplishing this is a responsive form of interactionism. Students need to be made to be inquiring. These projects are all, it seems, involved in making up inquiring minds.

Inquiry is part of a more wide-reaching discourse of "competence" based on the invisible, internal learning of the child. As noted earlier, competence is constituted through the discourse of active learning and creativity; self-regulating learners; a pedagogic discourse of interactivity, projects, themes, and experience; learner autonomy over the selection, sequencing, and pacing of learning; and the intentions, dispositions, relations, and reflexivity of learners. Competence refers to the open narratives and personal projects of the individual, their cognitive, affective, and motivational dimensions, rather than to the grand collective narratives of the disciplines that make up the subject-based curriculum.⁹ Competence, in other words, is the technical descriptor for the child's soul.

Creativity with Attitude!

The highest possible form of competence seems to be creativity. Creativity is important because it is both a human capacity—we are all more or less creative now—and an economic imperative. Psychologists from various subdisciplines have been highly active at promoting creativity both as part of everyday psychological life and part of an “entrepreneurialization of business and economic life.”¹⁰

To take one example, texts like those produced by the self-appointed experts of the British think tank Demos have repeatedly sought to “realize the creative potential of all citizens and to boost competitiveness in the knowledge economy” by making “radical changes to the education system.”¹¹ The “creative age” imagined by Demos is a “radically high-tech, corporate democracy” in which “creativity with attitude” is described in the same terms found in “creative management” and “self-help manuals on ‘creative thinking’ and ‘creative living.’”¹²

Creativity now spans academic, popular, personal, political, educational, and business spheres, and schoolchildren are positioned as inquiring, competent, “creative souls” whose inner lives and habits of mind—defined psychologically—are to be the subject of interactionist pedagogic intervention.

The Whole Education network is part of the shockwave of the creativity explosion as it has been felt beyond the enclosures of the psychological disciplines. Based on a wide array of sources of authority and expertise, Whole Education constitutes a network that is bound together loosely by a series of “common beliefs.” These common beliefs intertwine creativity, employability, and personal competence. Whole Education promotes “adaptable and creative” learning “throughout life”; “independence” and

the development of “every individual” through a “diversity and choice of education pathways”; “building resilience” and “teaching social and emotional competencies including self-awareness, empathy, self-respect, persistence, and self-discipline”; forging “strong relationships” and “collaborations”; taking “joint responsibility” and practicing “active citizenship,” and supporting learning “outside school, in the community and online.”¹³

Embedded in the ideas of inquiry, competence, and creativity then is the extension of a largely psychological way of understanding and working with students. Competent and creative inquiry looks introspectively; it is concerned with students understood psychologically, cognitively, and affectively rather than those understood sociologically in terms of social structures, knowledge, and collective narratives. The role of teachers is to interact with students in order to facilitate their competence. Competence puts the onus on self-understanding and self-fulfillment, as shown in the stress put on creativity and its correlates of learning to learn, constructivism, metacognition, effective lifelong learning skills, multiple intelligences, and so on, which position learners as inwardly focused private souls.

Psychotechnical Schools

The construction of greater synergy between technology and the curriculum—symbolized by the emphasis given to inquiry, competence, and creativity rather than knowledge—means that all of these elements are now becoming part of a new psychological way of managing the curriculum. The future of the curriculum is subject to a new form of professional psychological expertise that acts to shape students as creative souls through reshaping curriculum. The curriculum embodies learning how

to see, think, feel and act; it shapes identities and minds. In the psychological management of the curriculum, the perspectives of psychology (“psychological eyes”) generate the standards and rules by which students are to view themselves and participate in school while psychological concepts accordingly generate the principles and classifications by which the curriculum is to be reimagined and redesigned.¹⁴

The strength of psychological discourse—or “psy” for shorthand—in contemporary education is part of a long history of a whole complex of “psy disciplines” and their role in “making up people” as “inner-focused persons” through school. The “psy complex” consists of heterogeneous knowledge, forms of authority, and practical techniques that make up psychological expertise and the eyes or “gaze of the psychologist.” Today, various forms and subdisciplines of psychology see the individual as an autonomous individual enmeshed in a network of dynamic relations with others. It is through the gaze of such dynamic and social psychologies that the contemporary psy complex operates. Through dynamic psychological expertise, psy promotes new styles of thinking about ourselves and others, our feelings, our hopes, our ambitions and anxieties, and new ways of planning life and approaching life’s predicaments, realizing one’s potential, gaining happiness, and achieving autonomy. We’re “made up” as ideally and potentially a certain sort of psychologically autonomous person. The individual is viewed by these psychological eyes as an “actively responsible self” whose own personal psychological fulfillment and quality of life is allied to the achievement of wider political and economic purposes and objectives.¹⁵

Through its implantation in schools, the psy complex has made the learner the object of scientific know-how and therefore

knowable as a subject of intervention in order to bring about a change in the future. Psy expertise has provided particular ways of thinking about childhood and new ways of seeing children that have spread to schools through a huge variety of texts, techniques, and practices that now make it possible to act upon their competencies and capacities in classrooms. The curriculum of the future applies dynamic psychological expertise, which sees young people enmeshed in networks of relations, to the problems of education in the digital age.

The psychological emphasis in education is nothing new of course; only now, however, it has been rearticulated in terms of its measurable economic contribution. An interesting example of this new alliance of inner focus and economic purpose is the Apps for Good program. As the project Web site describes it: "Apps for Good is an award-winning course where young people learn to create imaginative mobile apps that change their world. Our students create apps that make a difference and solve real life issues that matter to them and their community, giving them a launchpad in social enterprise and the exciting world of technology, design and innovation."¹⁶

The Apps for Good course links the creation of mobile apps to a philanthropic sense of purpose while also seeking to build students' "self-confidence" and readying them for "employment, self-employment and entrepreneurship in the real world." The psychological management of the curriculum constitutes a hybrid discourse that is simultaneously technological, philanthropic, psychological, and entrepreneurial. It is affective and focuses on feelings and passions, part of the participative culture of playbor noted earlier.

The hybridization of inner-directed psy discourse with economic entrepreneurialism is proliferating. For example, a British

research project synthesized a very large number of different “skills frameworks” emerging from government departments, research institutes, private companies, and crossover or “third sector” organizations. It compiled a report on the “wider skills” required for twenty-first-century economies. Its findings emphasize the importance of “new smarts,” “orientations,” “capabilities” and “capacities,” “dispositions” to learning, and the “mental and emotional habits of mind” that are required “if innovation is to be effectively developed in young people.”¹⁷ Another British research project identified very similar trends in an analysis of “personal skills and competences” frameworks, while a third report stressed the strong connection between improving personal “well-being” and “happiness” through education and the enhancement of economic well-being—a combination the report describes as a perfect “state of happiness.”¹⁸

The “wider skills” report proposes the application of psychological expertise to the economic challenges of the twenty-first century and identifies methods for cultivating, tracking, and measuring the new desirable qualities of “innovation.” Young people are positioned by the report as the subjects of psychological discourses of cognitive competence, emotional resilience, and therapeutic self-reflection. The stress on competence is then couched in terms of how schools can cultivate the habits of mind that underpin innovation. Schools are encouraged to promote a more active, creative, and innovative learner, in order to ensure a more active, creative, and innovative future for the economy. The well-being report echoes these conclusions. The curriculum of the future, from this perspective, is concerned with techniques to intervene in the psychology of students in order to maximize innovation. These three reports constitute

and contribute to a discourse for the psychological management of the curriculum that is at the same time human-focused, economically innovative, and seemingly politically progressive. They amalgamate theories of competence originating in the liberation of individuals' active creativity in the 1960s and 1970s with emerging twenty-first-century psy theories of creative intelligence and the "new smarts" associated with innovation in a knowledge society.

"Psychotechnics" was the name given to projects that sought to intervene in the psychology of factory workers in the early twentieth century. Psychotechnical projects were the psychological sibling to the hardline factory management techniques of scientific Taylorism. Like the Taylorist techniques that sought to ensure maximum efficiency on the factory production line, psychotechnics sought to maximize the utility of the factory worker by redesigning the work process and by sorting, selecting, and allocating workers to tasks on the basis of matching their competence to the demands of the activity. Psychotechnics sought to improve the "productive machine" by investing in the "human machine" as an active, autonomous, and motivated individual carrying out meaningful tasks. In today's culture of playbor, work has become as much psychological as economic, perhaps more to do with the identity of the employee than labor and cash.¹⁹

Schools, likewise, are sites where psychotechnical ideas, procedures, and techniques have been employed in order to assess and classify and act upon the capacities and competences of individuals in relation to political ideals and economic problems. The world today certainly has its economic problems, and much discourse on the curriculum of the future appears to advocate for increased intervention in the competence and well-being of the

student in order to improve a nation's capacity for innovation, as firmly demonstrated by the "new smarts" report. This is close to the reality of how business processes and job descriptions are linked to electronic databases of individual competence profiles, based on human capital metrics, to align people with corporate objectives.²⁰

The various competencies frameworks analyzed in the "new smarts" and "happiness" reports—and those embodied in projects like Opening Minds, Enquiring Minds, Q2L, and so on—may therefore be understood as psychotechnologies that act to make up learners in terms of competencies and capacities of flexibility, adaptability, initiative, ad hoc groupings, informality, innovation, and creativity. They are linked to a "new image of work" and a "new image of the worker," generated by psychological expertise, in which action, innovation, entrepreneurship, excellence, initiative, and so on can be released through the promotion of human autonomy, values, experimentation, creativity, risk, and innovation.²¹

Understood in this way, programs like Learning Futures and Quest to Learn seem to be advocating for a new kind of psychotechnical curriculum of the future. Instead of "human machine" metaphors, references to "well-being," with human well-being now fused to productive well-being, proliferate in these projects. In the psychological management of the curriculum, the machine itself has been humanized!

The key issue is that the psychotechnic projects of the curriculum of the future are not merely psychological. The psy discourse has now been blended with computer science in the transdisciplinary field of learning sciences to produce a hybrid of psy and CompSci styles of thought—a new "CompPsy complex" that merges psychological and computational thinking.

Through its amalgamation of psychological learning science and computer science theories and vocabularies, the CompPsy complex mobilizes a distinctive style of thought through a raft of new terms, concepts, references, arguments, explanations, and practical techniques of intervention. The learning sciences mobilize theoretical and philosophical descriptions from cognitivist, constructivist, constructionist, and sociocultural perspectives, augmented by computer, systems, and design sciences (and increasingly neuroscience too). The learning sciences provide detailed accounts of the technical and social processes of learning with digital technology, including its socially collaborative nature, but tend not to examine the social, political, economic, cultural, and historical contexts within which educational technology use takes place.²²

The CompPsy complex is an emerging scientific field and style of thought, then, which melds understandings of the technical and immediate social contexts of learning with the design of effective interactive technologies, informed by computational thinking, and the psychological management of student emotions. It embodies certain values, concerns, and politics, and through the design of specific curricular programs and technical systems it catalyzes certain actions and experiences. Captured in the term “socio-technical change” used by sociologist of science and technology, technologies are outgrowths of social actions that carry with them a host of political associations and historical connections that they implant in human behavior, thought, and action through privileging certain activities, states of being, and positions over others.²³ The design of educational technologies by learning scientists has been described as a method for “designing people” through “engineering” particular forms of learning, actions, and dispositions.²⁴

The style of thought of the CompPsy complex, then, generates certain sorts of experiences in the curriculum of the future, and it catalyzes certain sorts of pedagogies and interactions among educators and learners. In the discourse of CompPsy, authority is given to transdisciplinary knowledge, to innovation, and to creativity in addition to self-improvement, well-being, and personal competence. The objective of the CompPsy complex is to maximize human well-being, happiness, and self-competence while also seeking to maximize productive creativity and innovation for a high-tech global competition. Mental and economic well-being are mutually constitutive. It produces an ideal-type learner identity of the "individual entrepreneur" with "ethical-economic and psychological quality."²⁵

The emergent CompPsy complex has now begun to exert its transdisciplinary scientific expertise on the shaping of the curriculum of the future, thanks to the network mode of governance and the diverse authorities it has permitted into curriculum design. The CompPsy complex seeks to act upon and make up persons to be self-managing in order to benefit an economy that requires expertise across informational and technical disciplines. In short, by ushering into the educational field a host of new crossover players, actors, and voices of CompPsy expertise, governance generates a particular kind of self-competent, inner-focused individual, an individual whose emotional well-being is important for innovation and the future well-being of the economy.

In summary, the replacement of an official canon of curricular knowledge with a new expertise of creativity and competence, and their classroom correlates of inquiry learning and interactive pedagogy, has been largely led by expert individuals and organizations whose links with national and state education

systems are informal, loose, and shifting. Think tanks, NGOs, nonprofits, foundations, professional societies, and commercial networks, including those concerned with industrial modernization, enterprise, and the future of work in the digital age, have become the self-appointed little experts of the curriculum for the future.

The transdisciplinary blend of psychological and learning sciences approaches to education advocated by these intellectual experts has sought to position students as inner-focused individuals whose own self-responsibility, competence, and well-being—their deep inner soul, interior life, and habits of mind—have been fused to the political objective of economic innovation. Their own self-fulfillment, mental and emotional well-being, and happiness are important for global economic well-being. Education is important in this respect. Rather than being “schooled to work” as “human machines” assigned to be components of the “productive machine,” an emerging CompPsy complex assigns human well-being to productive well-being through psychotechnical visions of the future of schooling. In this sense, the new psychotechnical edu-expertise has fused educational effectiveness to the more affective realm of culture.

