Tolstoy, the Hacker Ethic, *Gendai GP*, and Education

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Abstract

If Tolstoy were alive today and teaching, he might be a hacker, or at least borrow some of their ideas for education. We look at ideas about education and learning from three sources; Tolstoy, Linus Torvalds and the Hacker Ethic, and finally Good Practice as it evolves from standards in the US to directions in the 21st century for Japanese education. We look at the similarities to show that the gradual movement in education today, and since Tolstoy’s time, has been along one long continuum.

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It was at one of those long faculty meetings we used to have two years ago when someone was droning on about Tolstoy that I first encountered, in a magazine, reference to the Hacker Ethic. I was astounded by the parallels in thinking. Further impetus came along last year in the form of the Mombukagakusho (MEXT) program of *Gendai GP*, or Good Practices. This, along with ideas I had been researching in technology and education are the sources of information for this article.

The purpose of this article is to explore each of these different threads of theory about education separately, and then try to intertwine them in an effort to modernize and integrate all of them. I hope you’ll find reading this article as inspiring as I have found researching it. The only unfortunate part was the lack of information in English by or about Enkichi or Kusuo Hitomi, or their views on Tolstoy. There doesn’t seem to be anything available. Please pardon my ignorance in this area because there don’t seem to be any short summaries and Japanese either. My views consist of what I am able to glean from colleagues’ comments on the subject. My Japanese is not good enough to read the long tomes published by them. I am going to cover here only the aspects of Tolstoy’s ideas on education that either clearly support or vary from the Hacker Ethic and *Gendai GP*.

On the surface, any kind of comparison between a late-nineteenth century author, a computer programmer and a ministry of education may seem odd. Tolstoy found teaching more valuable
than writing, and had some very specific ideas that were unusual at that time. Linus Torvalds, also from the arctic north of Eurasia, has discovered a new work ethic that depends heavily on education and learning. Two professors in the United States have put together a list of seven good practices for education and started a movement, which the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan have transformed into six *Gendai GP* initiatives.

**Tolstoy**

Depending on whom you read, Tolstoy’s educational beliefs are libertarian semi anarchist, pragmatic and eclectic, or ineffectual unguided results of a hobby gone awry. Archambault, in his introduction to Weiner’s 1967 translation of Tolstoy on Education—the University of Chicago in 1967 was both the time and place for radical views on education—has the most extreme views and perhaps the least informed.

“Tolstoy’s style is loose, literary, non-logical. It is often sentimental, ironical, sarcastic. It is riddled with paradoxes, if not contradictions. Nevertheless, through his impressionistic and often emotional, indeed, political, statements a reasonably clear and vigorously distinctive view of education emerges.” (Archambault, in Wiener, 1967, p. viii)

Some thought Tolstoy’s educational drive was to understand culture, or high culture.¹ “Pedagogy serves as a verification of many, many of life’s phenomena, and of social and abstract questions.” (Tolstoy, in Blaisdell, 2000, p. 136) He saw the role of teachers as transmitters of culture.²

**Liberation Pedagogy**

Tolstoy’s main thrust of education was to make learning more natural, to follow the learner’s needs instead of the State’s. “The prescriptive, compulsory, authoritarian approach to education—which, he argued, must follow inevitably from state control—is the root cause, he says, for popular resistance to education.” (Murphy, 1992, p. 90) His experiments at Yasnaya Polyana may seem disorderly. “The chaos and clamor of everyday classroom activity was not to be squashed by teacherly authority; the ‘chaos’ was natural, even necessary, and Tolstoy discovered that the children themselves justly regulated its duration and limits.” (Blaisdell, 2000, p. 2)

But the chaos in the school was not one of disorder. The school was driven by materials and driven by teachers, but most of all driven by the curiosity of the students. Lessons were created to be stimulating and always with a touch of discovery.³ This discovery would eventually lead to freedom for the learner.
"But, side by side with this insistence on education as a process of freely oriented discovery, Tolstoy emphasised the formative role of the educator and stressed his responsibility, as one consciously engaged in the transmission of culture, to guide and direct the pupil in his search for the truth in a spirit of individual freedom." (Murphy, 1992, p. 85)

Teachers were central to the equation for Tolstoy. There were not only developers of lessons, but motivators. They had to be flexible enough to change the lesson quickly to keep the students’ interest, as there was no attendance requirement. Indeed, there were no grades. But according to passages such as this one, by Tolsoy himself,

"The children gather around the teacher, and the teacher-guided by the [material]-narrates the stories and then asks questions. Then all the students begin talking at the same time. When there are too many voices speaking at once, the teacher stops the students and has them speak one at a time; the moment one hesitates, the teacher lets the others have a go. When the teacher notices that some have failed to understand, he makes one of the best students go over the problematic passage for the benefit of those who have not understood." (Tolstoy, in Blaisdell, 2000, p. 126)

Tolstoy’s pedagogy, in a nutshell was the transmission of culture by qualified and motivated teachers to provide an environment in which there was freedom to learn.

**Torvalds**

Linus Torvalds is the quintessential hacker. Inventor and primary developer of the Linux computer operating system, he recruited friends and instigated a system for software development that has grown into a new philosophy. I liken Torvalds’s achievement to that of Henry Ford, whose biggest contribution to society was not the automobile, but a means of production, the assembly line, and paying factory workers enough to be able to afford the products they produced. Ford, Thomas Edison and other innovators built on a very old work ethic, the Protestant Work Ethic.

The Hacker Ethic is the basis for a whole new series of development tools and ideas about information, such as Creative Commons licensing, which is offering a more logical alternative to the idea of copyright. But above all, hacking is about work. Torvalds divided motivations into three categories, similar to Maslow’s hierarchy of needs. The most basic is “survival” for physiological needs. When those are met, needs are filled for a “social life”. When people feel secure in their society, they then are free to pursue “entertainment.” Entertainment is the pinnacle of advancement, what we all work toward, strive for. The definition is a bit different than what most of us have in mind, though. “Entertainment is something intrinsically interesting and challenging.” (Torvalds, 2001, p. xv) The key word here is challenging.
But before we go any further, let's define what a hacker is. Many of you will have heard of the word in a negative context, as someone who breaks into computers and causes damage. The original sense of the word was a person who found unusual solutions to problems, usually related to software.

"A 'hacker' is a person who has gone past using his computer for survival ("I bring home the bread by programming") to the next two stages. He (or, in theory but all too seldom in practice, she) uses the computer for his social ties—e-mail and the Net are great ways to have a community. But to the hacker a computer is also entertainment. Not the games, not the pretty pictures on the Net. The computer itself is entertainment." (Torvalds, 2001, p. xvii)

If we take a broader view of the word, used in its original sense, it can mean something similar to "craftsman" or "artisan". "Hackers can do almost anything and be a hacker. You can be a hacker carpenter. It's not necessarily high tech. I think it has to do with craftsmanship and caring about what you're doing." (Smith, 1999, p. 232) But the essence of hacking is in work. Raymond says in his guide 'How to Become a Hacker': "being a hacker is lots of fun, but it's a kind of fun that takes a lot of effort." (Raymond, 1999, p. 233)

The Hacker Ethic has gone beyond Torvalds, and is now practiced by a great number of intellectuals and "knowledge workers" (to use Peter Drucker's term). Pekka Himanen, also from Finland, writes of the precedents in the Hacker Ethic, and sees that many of the same ideas were part of Plato's Academy. Himanen goes on about Plato's references to Time, about having enough time to reflect and learn. If you look closely at the Greek word skhole, though, you find that Plato was advocating that people have control over their own time, that a person should be able to combine work and leisure as they (and not some other entity) thought best. The English word school is a derivative of skhole.

Education in the Hacker Ethic

Himanen, in his book on the Hacker Ethic, devotes an entire chapter to education, and explains the difference in thought by going back to two important historical institutions, the Academy and the Monastery. Most universities today follow the Monastery model. A Monastery is a closed system, where information is doled out in classes by the authority (teacher). There are very strong structures for interaction, with set behaviors for learners and teachers, just as a monk's life is structured to follow the orders of the abbey.

The Hacker's Academy, based on Plato's Academy, uses a problem as a starting point. This problem is one that the "student" (better referred to as the "researcher") finds interesting. They work by themselves, or with others, to provide some kind of solution. The researcher has the right to choose the problem and to work on the solution when and how (s)he chooses.
Cooperation is another cornerstone of the Academy, where sources must always be mentioned, leading to an economy of ideas. The other side of this coin is that once a solution is found, it must be shared as widely as possible.10 The Creative Commons license is one manifestation of this idea.

Learning under this system involves passion. Just as sex11, with its inherent passion, is the pinnacle of entertainment in some societies, learning involves passion which leads to long hours of study or experimentation. It is the “hard fun” that gives rise to advancement in the Academy. Social interaction is also another passion, with a hacker learning and teaching at the same time. Often one will post half-formed ideas that will get discussed by a group and developed further within that group. Researchers work together cooperatively, without the strict structures necessary in a Monastery. “The hackers’ open learning model can be called their ‘Net Academy.’” It is a continuously evolving learning environment created by the learners themselves.” (Himanen, 2001, p. 75)

**Gendai GP**

Arthur Chickering and Zelda Gamson, with the help of numerous colleagues and the American Association for Higher Education (AAHE) developed a manifesto, “Seven Principles for Good Practice in Undergraduate Education” in 1987. Good Practice:

- encourages contact between students and faculty,
- develops reciprocity and cooperation among students,
- encourages active learning,
- gives prompt feedback,
- emphasizes time on task,
- communicates high expectations, and
- respects diverse talents and ways of learning.

(Chickering and Gamson, 1987)

They go on to say that when all of these practices are in place, they work together to increase six powerful forces in education; activity, expectations, cooperation, interaction, diversity and, responsibility. These simple ideas spread and were discussed and used across the US in the 1990’s and still influence classroom practice there.

Meanwhile, another kind of Good Practice has been developed by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). These six principles have guided funding for many universities across Japan since 2003. These six are:

- Contribute to regional activation; integration with the community.
• Intellectual property-related education.
• Develop Japanese who can use English in the workplace.
• Strengthen integration and cooperation among universities.
• University-business cooperation. Introduce long-term internships.
• Distance Education which utilizes IT (e-Learning). (MEXT, 2003)

It is interesting to note that while the Good Practices (GP) in the US in the 90’s was concerned with pedagogy, the GP in Japan reflects more social concerns. It seems that while MEXT borrowed the terminology, they may not have borrowed the concepts behind it. In fact, Good Practice is used as an abbreviation for “Contemporary Education Needs Initiative Support Program”. In any case, since “good practice” is primarily in education in both countries, I am going to assume that there is some connection between the two.

Certainly, Practice #3, “Developing Japanese who can use English in the workplace,” does show some very specific educational guidelines that sound very similar to those by Chickering and Gamson. I am most familiar with this part of GP because Showa Women’s University has received a grant from MEXT for this purpose. These MEXT guidelines include a new set of specific goals for secondary and tertiary education in Japan. These goals are more practically oriented, but often boil down to passing either the TOEIC or STEP tests. In class, it calls for more content taught in English, and more small-group activity. Experimental schools such as Super English Schools (SES) and magnet schools are being funded. Teachers are encouraged to engage in professional development, and are sometimes forced to do so. Motivation will be enhanced with opportunities to study outside class and abroad. English entrance exams at universities will be scrutinized. Elementary school classes in English will be encouraged. Even Japanese language classes are slated for overhaul, as lack of native linguistic ability is seen as a barrier to learning a second language. The key note to this series of changes is to make English language learning have a practical goal in mind.

The University, Information Technology, and Learning

The confluence of ideas here can help us move forward with education in the 21st century. With a long history that may have started with Plato’s Academy and moved through Rousseau to Tolstoy, then on to Dewey and eventually to Good Practices, with the influence of a new approach called the Net Academy as part of the Hacker Ethic, we can see where we are coming from. The task now is to extrapolate that history into a direction for current and future pedagogy.

Commonalities

In each of these pedagogies, the student (learner) is given a vast amount of autonomy, much
more than in traditional systems. Note Tolstoy: "To organize this class, the teacher had only to show the students how to conduct business together, just as a grown-up person teaches youngsters any game. In fact, writing class had been conducted the same way for two years, and every time with as much liveliness as a good game." (Tolstoy, in Blaisdell, 2000, p. 116) We can see the same kinds of thoughts in Himanen: "A typical hacker's learning process starts out with setting up an interesting problem, working toward a solution by using various sources, then submitting the solution to extensive testing. Learning more about the subject becomes the hacker's passion." (Himanen, 2001, p. 73) Good Practice #7 emphasizes that the classroom respect diverse talents and ways of learning. The idea of liberation is echoed from ancient time by Plato: "No free person should learn anything like a slave."

Practicality is another focus shared. "The greater liberty, simplicity, and trust between the students and teachers outside the school are our ideal for what we should strive for in the school." (Tolstoy, in Blaisdell, 2000, p. 91). Archambault echoes this in his assessment of Tolstoy when he says, "There are no sacred subjects which all students must take, but only skills and sensibilities which necessity demands that all acquire." (Wiener, 1967, p. xii). The Hacker Ethic also echoes, "Students would learn by becoming researching learners from the very beginning, by discussing matters with researchers, and later on by studying the research publications of their field directly." (Himanen, 2001, p. 78). The Ministry of Education, Culture, Sports, Science and Technology (MEXT) is promoting as one of their Good Practices long-term internships and study in practical situations such as study abroad for foreign languages.

There are more commonalities than we have space to go into here. Let it suffice to say that in areas like erasing the boundaries between school and life, the role of the teacher as guide instead of master, decentralization of authority and responsibility to the learner, and tailoring the curriculum to the needs and interests of the learner are all common to Tolstoy, the Hacker Ethic and Gendai GP. Archambault puts it best with, "Perhaps the best word to describe Tolstoy's educational thought is heuristic in its proper sense of stimulating the reader to investigate, think, order, and evaluate for himself." (Archambault, in Wiener, 1967, p. xvii)

**Information Technology**

One place where the confluence of ideas is at its most fluid is information technology, or IT. Tolstoy was an eclectic, willing to use whatever worked, even methods he thought less than productive in normal situations. He also gave high priority to individualization of education, tailoring it for single students, if necessary. He was not so much concerned with the undue burden this put on his faculty, but realized that students learn things differently, using different learning styles.

The principle advantage of IT in education is that (with the best software) students are tutored
individually, at their own rate of speed and learning style. Roger Schank\textsuperscript{12} has often said that the classroom situation is one of the worst places to learn, with 30 students and only one teacher. It should be reversed, with 30 teachers for every student. Computers can bring infinitely patient, omnipresent multiple tutors to the learning situation. I think Tolstoy would have agreed with this assessment, such was his dislike of the traditional classroom situation, where he often took students on hikes during the day, using it as a learning opportunity.

Good Practice quickly evolved from a general theory, with Chickering and Ehrmann finding IT a very good fit to leverage the seven principles into distance education with asynchronous communication helping teacher/student interaction, cooperative learning so common in Hacker Ethic, feedback, time on task, high expectation and different learning styles\textsuperscript{13}.

One of the most influential educators today is Seymour Papert, inventor of a computer language for teaching (Logo) and an approach to learning called "Constructivism". The primary focus of this approach is to realize that learners need to "construct" their own knowledge to effectively integrate it into their working arsenal of skills. In a discussion with Theodore Roszak, another great advocate of using technology for pedagogy, Roszak lauds Tolstoy's prescient thinking. Let me leave you with a final quote.

Here is what Tolstoy did to reach the peasant children for whom he built a school on his estate: He swept aside everything that might discourage or inhibit their intellectual growth. No lesson plans, no grading, no classroom protocol, no assignments. He stripped the school down to nothing but young imagination. His technique, as a writer, was to coax the kids into creating stories based on their lives. Now, in Tolstoy's time, schools spent a great deal of time teaching penmanship: endless boring hours of forming letters, with the pen held just so. And then there was grammar and spelling to worry about. Instead of lumbering his pupils with all this, Tolstoy took their stories down from dictation with a stubby pencil, praising the kids at every step, and encouraging them to tell more. The kids quickly took up the task collectively, elaborating one another's tales. Then he presented them with the finished work—their work. He actually believed that the children were better authors than he was!

NOTES

1 "Tolstoy saw education as having no ultimate aim. Its purpose was generated from the educational process itself and could best be stated in terms of understanding. For Tolstoy, culture was a key concept, summarizing the values of the civilized society that had endured in the face of criticism and conflicting claims." (Archambault, in Wiener, 1967, p. ix)

2 "Tolstoy saw this selective process of acculturation as leading inevitably to a conception of education as induction—one by which the learner is systematically oriented towards a socially sanctioned values and norms." (Murphy, 1992, p. 88)

3 "... far from creating a laissez faire situation where every child pursued his/her interests in conditions of total disorder, the activities of the school were carefully organized, and lessons were based always on
intellectually and imaginatively stimulating content, with a view to guiding the processes of individual discovery in every child towards their greatest possible degree of fulfillment." (Murphy, 1992, p. 59)

4 "...the hacker ethic is a new work ethic that challenges the attitude toward work that has held us in its thrall for so long, the protestant work ethic, as explicated in Max Weber's classic The Protestant Ethic and the Spirit of Capitalism (1904–1905)." (Himanen, 2001, p. ix)

5 "Linus's Law says that all of our motivations fall into three basic categories. More important, progress is about going through those very same things as 'phases' in the process of evolution, a matter of passing from one category to the next. The categories, in order, are 'survival,' 'social life,' and 'entertainment'" (Torvalds, 2001, p. xiv)

6 "The attitude of passionate intellectual inquiry received similar expression nearly 2,500 years ago when Plato, founder of the first academy, said of philosophy, 'Like light flashing forth when a fire is kindled, it is born in the soul and straightway nourishes itself.'" (Himanen, 2001, p. 6)

7 "[Plato's] academy has always defended a person's freedom to organize time oneself. Plato defined the academic relation to time by saying that a free person has skhole, that is 'plenty of time. When he talks, he talks in peace and quiet, and his time is his own.' But skhole did not mean just 'having time' but also a certain relation to time: a person living an academic life could organize one's time oneself—the person could combine work and leisure in the way that he wanted. Even though a free person could commit to doing certain works, no one else owned his time. Not having this charge of one's time—askholia—was associated with the state of imprisonment (slavery)." (Himanen, 2001, pp. 33-34)

8 "The opposite of this hacker and academic open model can be called the closed to model, which does not just close off information but is also authoritarian. In a business enterprise built on the monastery model, authority sets the goal and chooses a closed group of people to implement it." (Himanen, 2001, p. 70)

9 "Broadly speaking, one can say that in the academic model the point of departure also tends to be a problem or goal researchers find personally interesting; they then provide their own Solution." (Himanen, 2001, p. 69)

10 "Nevertheless, the scientific ethic does not involve only rights; it also has the same two fundamental obligations: the sources must always be mentioned (plagiarism is ethically abhorrent), and the new Solution must not be kept secret but must be published again for the benefit of the scientific community." (Himanen, 2001, p. 69)

11 "Sex? Sure. It obviously started out as survival, and it still is. No question about that. But in the most highly developed animals, it's progressed past being a thing of pure survival—sex has become part of the social fabric. And for human beings, the pinnacle of sex is entertainment." (Torvalds, 2001, p. xvi)

12 Personal Communication, Evanston, IL. The best introduction to Schank's ideas is in his book Virtual Learning.

13 "Since the Seven Principles of Good Practice were created in 1987, new communication and information technologies have become major resources for teaching and learning in higher education. If the power of the new technologies is to be fully realized, they should be employed in ways consistent with the Seven
Principles. Such technologies are tools with multiple capabilities; it is misleading to make assertions like "Microcomputers will empower students" because that is only one way in which computers might be used." (Chickering and Ehrmann, 1996, p.1)

Resources
http://www.catb.org/~esr/faqs/hacker-howto.html

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