

The Value of Teaching

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Summary: In universities, education and research compete for the investment of money, time, and effort. This essay outlines fundamentals of effective education drawn from Robert Leamson's book *Thinking about Teaching and Learning* (1999) and proposes that teaching should be attributed the same value as researching because teaching does not only preserve existing knowledge, but can give a student the knowledge necessary to become a successful researcher. Bringing teaching and researching closer together in a theory of teaching as indirect researching can give policy-makers, administrators, researchers, and teachers confidence that they can attribute teaching more money, time, and effort.

Keywords: Teaching, Learning, Education, Research, Knowledge

Investing more in education is an important issue in many countries where governments want to make the population fit for global competition. Some countries, like Japan or Germany, also have to deal with shrinking populations, and they need to make the best use of their diminishing brain resources. Angela Merkel, the new German chancellor, promises to promote education and emphasizes, "Our treasures are the people" ("Politik im Blindflug," 2005, p. 72). Investing in education means investing in the future of a country. According to a recent study that compares 28 OECD countries, Germany invests only 4.4 percent of its GNP in education, occupying place 20 among 28 ("Besser, nicht gut," 2005).

In universities, education and research compete for investment. Money, the number of university professors, and their time and effort are limited, and policy-makers, administrators, and professors have to make decisions about where and how much to invest. In the contest between education and research, research often wins. However, universities hold a brain pool of researchers, teachers, and learners. This brain pool should be used effectively for the future of a society. In this essay, I will point out some fundamentals of effective university teaching and learning, and I will suggest that money, and the time and effort of researchers and teachers may actually be saved by bringing teaching and researching closer together in a theory of teaching as indirect researching.

For certain fundamentals of effective university education, I will draw from

Robert Leamnson's book *Thinking about Teaching and Learning* (1999). Although Leamnson relies on recent brain research and the advice of pedagogical researchers, his philosophy mainly rests on his own long experience of university teaching. My own background of over 15 years of university teaching experience in Japan will also support me here. To describe views of research and knowledge, I will draw from Angela Brew's *The Nature of Research* (2001). She analyzes interviews with researchers and presents their understandings of research and knowledge. These understandings range from traditional to postmodern. Quoting Lyotard and other postmodern thinkers, Brew herself takes a postmodern standpoint in her view of research. She also reopens the debate about the competition between researching and teaching, a competition for what she calls "contested space".

Effective Teaching

Leamnson (1999) divides education into two activities that he sees as clearly separate: teaching and learning. Teaching and learning may take place in the same room, but they are being exercised by different people: teacher and student. I will also treat teaching and learning separately.

Investing in teaching means investing more than just money. It also means investing a certain number of teachers, who in turn invest a certain amount of their time and effort. These investments, however, can be expressed in terms of money, for example money for a certain number of salaries, or a raise in salary. An investment in teaching can also be an investment of acknowledgement in the activity of teaching. Speaking of an investment of acknowledgement may seem unusual, but I even want to go as far as speaking of an investment of *value*. Valuing teaching can be expressed in terms of teacher numbers, teaching time, and effort. How many teachers are allocated to a certain number of students? Does an individual teacher prepare well for his classes? Valuing can also find financial expression, for example in the amount of salary allocated to a teacher, or in financial rewards for good teaching. However, the number of teachers, teaching time and effort, and the value of teaching cannot be weighed in terms of money if the amount of money available has already been determined. In that case, the university has to decide how many salaries to pay with the available amount of money, and the individual teacher has to decide how much time and effort to put in for his salary. Valuing also goes beyond mere financial expression when a limited amount of money is available. In that case, the importance of teaching in the consciousness of individual teachers, or the prestige teachers have in a university

indicates how much teaching is being valued. The importance of teaching will find expression, though, in the amount of time and effort invested by the individual teacher in his teaching.

For university teachers, who are usually also researchers, investing time and effort in teaching means taking away time and effort from researching. As Brew (2001) puts it, in universities “research and teaching occupy contested space” (p. 146). Some university teachers believe that sound knowledge in their field is enough to be able to teach the field effectively and that all they need to invest in teaching is lesson time. The teacher’s own education in the field would then serve as sufficient lesson preparation. Leamson (1999) discusses this attitude and states that “... knowledge of one’s discipline is not in itself sufficient for presenting it in a way that will inspire students to learn” (p. ix). Investing time and effort in teaching means more than investing lesson time. It means even more than investing lesson time plus lesson preparation time. It means taking away time and effort from researching to give it to lessons plus to *good* preparation for *effective* lessons. Leamson lists his personal minimum requirements for effective teaching (p. 7). Two items on his list are especially prominent throughout the whole book. One is the teacher’s awareness of the fact that skillful and accurate use of language is at the center of teaching and learning. The other is the teacher’s belief that teaching is important and makes a difference. My own minimum requirement is to value teaching, for that will foster all other things necessary.

Teaching a field is often considered an activity of minor value in comparison to researching a field. However, it is by no means certain that researching contributes more to a society than teaching. Researching might not produce any results, or the results might live on only to collect dust on shelves, just as a student might not learn or never use the new knowledge. Both activities, researching and teaching, have only a *potential* of creating future contributions to society. Therefore, teaching should be attributed the same value as researching. In fact, teaching should be a field in itself, a second discipline that every university teacher has to deal with on an equal footing with researching.

What a student has successfully learnt may be used by the student only, or the student may also pass it on to others. Eventually, the knowledge a student acquired may travel into the future, produce new knowledge or contribute to discoveries, possibly for the good of society. Leamson (1999) mentions Richard Dawkins (1976) who imagined something he called memes traveling on through generations like a gene. Dawkins’ examples of memes that survive in a society for a shorter or longer period of

time include melodies, fashion, design, and ideas. Dawkins dares to suggest that memes could travel through generations and live on even more successfully than genes. Teaching passes on knowledge to students, or in Dawkins' terms, it passes on memes. Teaching can also make students fit to deal with memes better, to pass them on to other people easily or to use them to develop other memes. Some teaching might not bear fruit at all, and some might help only one learner find his way through life with the new memes. Other memes will survive in a society for a limited period of time only. However, once in a while a meme will be passed on that will sooner or later bring about a major development through thought or discovery.

Effective Learning

Leamson, who distinguishes clearly between the activities of teaching and learning, defines teaching as “any activity that has the conscious intention of, and potential for, facilitating learning in another” (1999, p.3). Valuing teaching therefore means valuing potential learning, and investing in teaching means investing in potential learning. Brew (2001) also mentions the necessary “move from an emphasis on teaching towards an emphasis on the facilitation of learning” (p. 152). The only thing that matters in the end is what goes on in the learner's head. The teacher should therefore not stay behind the lectern, lecturing blindly, but reduce the distance between teacher and student and develop an idea of what learning is.

Leamson defines learning as brain change, rather than just brain use. There is a new tendency to look at recent brain research results and use them to understand better what is going on in a learner's brain. It is interesting that Leamson is a biology professor. At the time of his writing of *Thinking about Teaching and Learning* (1999) he was also director of multidisciplinary studies at his university. Sousa (2001) also speaks of learning as brain change, physical and chemical brain change, and he teaches us to focus on the learner's brain. He even explains the brain in some detail before making suggestions how to teach better.

University professors should think of their students the same way they think of the referees when they are writing their applications for a research grant. They can find advice in books or get advice from experienced colleagues about how to write a successful grant application. One piece of advice they receive might be to imagine the referee's situation and view. In the same way, teachers have to imagine what is going on in the students' heads while they are learning. Each student brings an individual situation and an individual neural network to class. What exists already in a student's

brain determines to some extent what he or she will ultimately store in long-term memory and actually put to use. Each student has an individual situation, but there are common factors. Leamnson (1999) writes about American first-year university students. I suggest that Japanese first-year university students are no different. For example, American first-year students don't want to be conspicuous. This surprised me because, though it is very true that Japanese students avoid standing out, I would have imagined young Americans to be more self-assured and open.

Effective learning, learning that does not waste time or effort, can begin to take place when new university students change their preconceived ideas about what learning is. The students come to university expecting a "game called school" (Leamnson, 1999, p. 42). According to Leamnson, the main rules of this game are that school and real life having nothing to do with each other, that you learn facts, not thinking, and that you empty your brain of these facts when the exam is over. In Japan the word "game" most certainly applies to the attitude of university students. They literally expect their four university years to consist mainly of fun and games. They expect four years of *asobu* (play). Some months ago a first-year student came to my office to ask advice about the right attitude towards university learning. Her older sister had told her to use her university years to *asobu* as much as she could. She came to university fully prepared to do just that – until she witnessed foreign students on campus studying seriously. She became confused and didn't know whose example to follow. Of course the ambitious foreign students who make it to Japan are not the average Chinese, Swedish or German students, but the "playing times" in Japanese universities might soon be over because global competition will push real learning.

Leamnson (1999) has more advice for effective learning. Students have to give up compartmentalizing. Compartmentalizing means not networking inside the brain while acquiring new knowledge, it means not making connections that would save space in the brain by using knowledge that is already there. Compartmentalizing slows down the speed of learning and reduces the likelihood of spawning new ideas. It is not effective.

Students have to improve their facility with language. Language is the central problem that many other problems with learning and teaching are linked with, therefore it is especially effective to deal with it. Get the problem with language right, and so many other things in learning will fall into place without additional investment. Leamnson (1999) adopts the expression "languaging" (p. 25) coined by Postman and Weingartner in their book *Teaching as a Subversive Activity* (1969). "Languaging" means struggling with language to improve one's facility with it. The word "struggle"

that Leamnson uses implies that “linguaging” is hard and requires an investment of effort. Only when learning is to some extent difficult, maybe even a little uncomfortable, only then it is really happening. Leamnson says, “I suspect that few experienced college teachers would believe that much serious learning goes on when students are in a state of maximum comfort” (p. 143). For Leamnson learning is brain change, but we can also say that he sees the process of learning as “linguaging”. The learner learns by “linguaging” and the teacher “linguages” the learner. Remember that Leamnson is a biology professor. He is not teaching language, he is not teaching literature, nor anything else immediately related to language. He is teaching biology. This fact makes his plea for the importance of language in learning all the more believable.

To practice “linguaging”, Leamnson (1999) recommends that students should take seminar courses in their first year. That way they do not only receive an overview of their new field, the way they might in introductory courses, but they can go into depth by discussing a certain topic in detail, doing a presentation about it, and writing a paper about it. German universities usually offer something called *Proseminar*. There is no English word for this, but “Introductory Seminar” could be a translation. The Saitama University Faculty of Economics offers *Purezemi* to first-year students. *Purezemi* are small classes where students have to engage in discussion, do a presentation or write a paper – they have to practice “linguaging”.

Knowledge, Researching and Teaching

What really is this knowledge that is being discovered by researchers, taught by teachers and learned by students? Brew (2001) in her study of researchers’ views of research and concepts of knowledge describes different understandings of what knowledge is. She links these different understandings of knowledge with different understandings of what research is. Two tendencies of understanding can be distilled from her study.

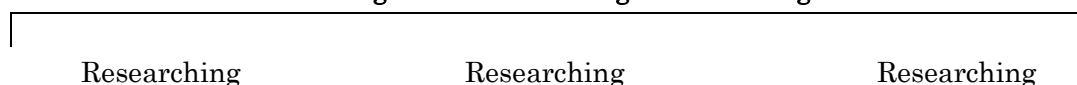
The first tendency treats knowledge as something that is separate from the researcher. The researcher acquires knowledge as a product to store away. Researchers go on researching and adding knowledge and storing away knowledge products. One day, all the products of all researchers will accumulate to give a complete description of the universe. This is the traditional understanding of knowledge and research. In the second tendency of understanding knowledge and research, the researcher and the knowledge are intimately connected. Researching is like a personal journey. Not so much the product but the process (the way the knowledge is being achieved) matters

because this process teaches the researcher how to live in a community, a society, and in this world. Research here is personal, but also highly cooperative and rooted in the community of researchers, and even in society beyond the academic community. Quality counts more than quantity. This understanding of knowledge and research accepts that research might even show that we do not know or cannot know certain things. There will never be a complete description of the universe. This is the postmodern understanding of research and knowledge (Brew, 2001).

Knowledge could also be imagined as a map that guides us through a landscape or a town. The map will never be complete, and researching new paths for the map will always continue. We will never know all the ways and paths through the landscape or the town, and some paths will never be trodden. There will sometimes be alternative ways to the same goal. There will also be dead-end streets that won't lead us anywhere, but it will be necessary to try them out at least once and to mark them on the map, so that others after us can know about them and will not have to go there any more. This will save future investment of time, effort, and money. We can move on and use our time and resources to try and find paths on the map of knowledge elsewhere. If a path ceases to exist, it can be erased from the map. Finding out that existing knowledge is wrong is as necessary as finding new knowledge. The wrong knowledge will not be taught any more, and investment will be saved.

Whether researchers strive to acquire a new knowledge product, whether they venture on a research journey, or walk down a path to a research goal – they cannot be certain that they will find what they are looking for. They do not know whether there will be results at all, or results of any use for society. There is only a *potential* of creating future contributions to society. The same thing can be said for teaching. Brew (2001) mentions the possibility that a university professor who is an unsuccessful researcher may as a teacher help a student develop into a successful researcher (p. 183). Teaching does not only preserve existing knowledge, but creates a *potential* for new knowledge. This consideration can bring researching and teaching closer together and provide a theory of teaching as indirect researching. Therefore, teaching should be attributed the same value as researching.

Figure 1. Researching and Teaching



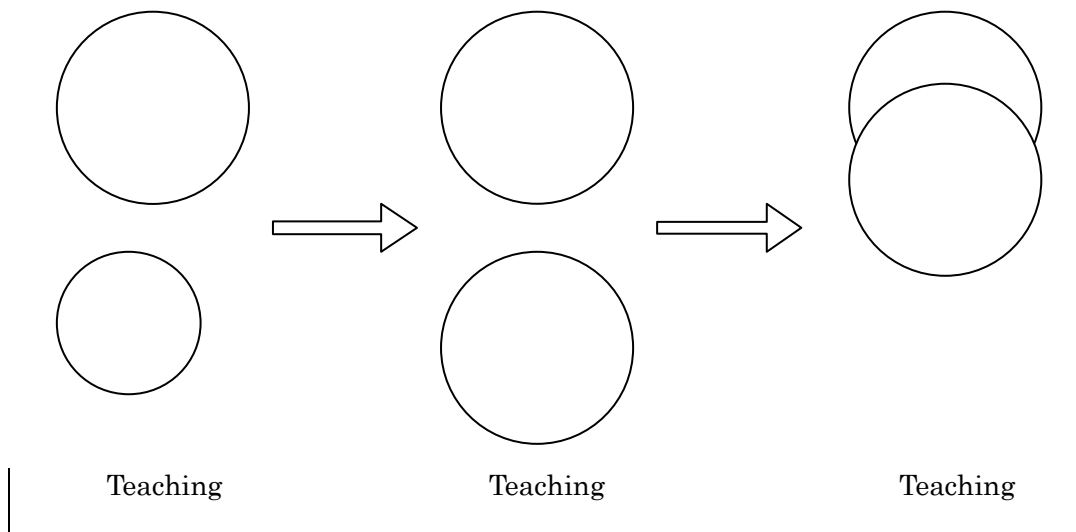


Figure 1 shows researching and teaching as two circles. On the left, researching is a big circle, whereas teaching is a small circle. The size of each circle expresses how much money, time, and effort are being invested in researching or teaching. In the middle, teaching is bigger now, as big as researching. In this case, each receives the same large amount of investment. More investment is now required, and this could be a problem if sufficient money or time is not available. On the right, both circles are big again, but they are overlapping and together require less space than two separate big circles. This image expresses a part of teaching as indirect researching. Imagining the two circles as overlapping and thereby saving space can give policy-makers, administrators, researchers, and teachers confidence that they can attribute teaching more money, time, and effort without taking away investment from researching. They might even be able to save investment.

Measuring the results

The desire to measure the outcome of researching, teaching, and learning exists, especially if we talk about investing and saving investment. How does the learning, the brain change become measurable? We cannot count memes in the brain or predict their future. We don't know the length of time memes will live on, or whether they will live on at all. I suggest that it is acceptable not to measure the results of teaching and learning, at least not immediately. Don't measure or measure later, possibly much later. In the case of researching the wait can be long, too. Every Nobel prize winner must have had teachers who, we could say, did indirect research by teaching this student who would later become such a successful researcher. I wonder

whether one day it will be possible to do research into the success of students in their jobs, as business people, as researchers, or as teachers themselves – research concerning their success depending on specific knowledge, specific memes. For the time being, it is acceptable not to measure, just to create a potential. Brew (2001) speaks of gardening and of seeds that might or might not develop into plants, and Dawkins (1976) speaks of memes that may travel through the generations or die with their host. All we can do as gardeners is plant more and water more. All we can do as teachers or researchers is to teach and to research more, and to try and become better teachers and researchers. We don't necessarily have to live to see the results.

Measuring students' learning accurately through tests and exams is very difficult. Students are known to clean any meme-potential out of their brains after tests (Leamson, 1999), so tests might even be the cause of meme-loss. Brew (2001) argues that it is the process of learning that has to be looked at rather than the products. She suggests that "assessment might be focused on formative pieces of work, examinations being rare" (p.153). Tests and exams play an exaggerated and problematic role in education in Japan from kindergarten to university. To some extent they hinder effective learning and create stressed and frustrated teachers, for example when teachers are forced to teach in a test-oriented way rather than in a way that can be helpful in students' lives (Murphey & Sato, 2003; Hato, 2005). Bringing learning and assessment closer together could provide a solution in some cases. In a content-based English language class Goodman (2003) practices cooperative assessment in which the students receive both a group grade and an individual grade. This novel examination, while being an examination, is at the same time a memorable peer learning experience and can therefore save investment of time and effort. There is a good chance that the content of such an unusual exam will remain in the students' brains.

We have, as yet, not much freedom to do more than only imagine teaching and researching as overlapping circles. The investment of money, time, and effort in teaching and researching is restricted by funding agencies, administrative guidelines, and deadlines. The investment of value is influenced by that. Are there ways of saving investment, ways that are outside the reach of the aforementioned restrictions? I suggest cooperation and modesty. Teachers and researchers should become peer teachers and help each other with their expertise, thus saving time and effort. Brew (2001) sees university as a community where researchers, teachers, and learners learn together and teach each other. I hope that even a senior professor would not feel embarrassed or anxious when asking a younger colleague or a student for help.

Teachers and researchers should be modest and accept the possibility that

they may not live to see the results of their teaching or researching. They should be satisfied with making just a small addition to the map of knowledge. Modesty also includes avoiding redundancy and too much academic jargon in publications. If researchers keep academic products as simple and as short as possible, they can save both their own time and that of their readers.

Conclusion

In a few years we will celebrate the 200th anniversary of the foundation of the earliest modern university. In 1810 in Berlin, Wilhelm von Humboldt realized an academic institution that united researching and teaching for the first time. His university started with only a few students per teacher. Wilhelm's university ideal also included self-administration independent from governmental demands and regulations. His brother Alexander von Humboldt could be regarded as the ideal researcher at the time of his famous research journey to America from 1799 to 1804. He was unmarried and had no children. After inheriting enough money from his mother, he was financially independent. He succeeded in keeping his distance from the Prussian king and saw himself as someone we would now call a global citizen. The Humboldt brothers were researchers and teachers who probably did not have to deal with the competition between teaching and researching the way university professors have to nowadays.

In a shrinking population, we must treasure the few students we still have and teach them effectively. Seeing teaching and researching as overlapping may help university professors who are both teachers and researchers to give enough time and effort to teaching. After all, it does not only keep old knowledge alive, but also creates a potential for new knowledge. Investing in teaching means investing money, time, and effort most wisely, and attributing value most properly. Society needs this investment, and our students deserve it.

Leamson (1999) writes about his experience with young students, but many of his insights are true for people of any age who endeavor to learn something new. There is an urgent necessity to educate older people when fewer people are available in societies with shrinking populations. Both Japan's and Germany's treasures lie hidden in the heads of all the members of their societies, not only the young members. Fewer people make lifelong learning and the teaching of the older part of the population all the more important.

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