

Small Tech, High Touch: A Permutation

¹Victor Christianto*

²Florentin Smarandache

Author's Affiliation:

¹Malang Institute of Agriculture (IPM),
Malang, Indonesia.

E-mail: victorchristianto@gmail.com

²Dept. Mathematics and Sciences,
University of New Mexico, Gallup -
USA.

E-mail: smarand@unm.edu

***Corresponding Author:**

Victor Christianto

Malang Institute of Agriculture (IPM),
Indonesia

E-mail:

victorchristianto@gmail.com

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ABSTRACT

In an earlier paper published in a neutrosophic math journal (IJNS), we discussed a new approach to technology, which may be called as 'opti-realism' or 'pess-optimism' as alternative to utopianism based on technocracy, which may lead the world into global techno-totalitarianism. In this article, we submit a new approach to Nature and technology, which is more modest and humble, rather than a techno-utopianism version of reality that most futurists argue for. Our proposed approach resembles more to Myer-Briggs 16 types of personality, including IJNS, IFNS etc. In our scheme, there are 8 characters of approach toward technology which can lead to many variations or we call it 'Permutation.' Of course, if the readers ask one variation that we prefer, we would answer: Small Tech, High Touch.

KEYWORDS: Opti-Realism, Small Tech High Touch, Permutation

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INTRODUCTION

In line with the rapid development of new branch of foundational mathematics, i.e. Neutrosophic Logic, in an earlier paper we discuss potential application of NL theory in the field of futurology (Florentin Smarandache, Victor Christianto, 2020). [9]. See for recent papers on NL: (Ranjan et al, 2018; Tuhin et al., 2018; Riad et al., 2018; Vakkas et al., 2018) [10-13].

In this context, about two decades ago, John Naisbitt - a prominent futurologist - published his book *High Tech, High Touch* (John, 2001) [1]. After that, there were many publications and research on efforts to apply the high tech and

high touch concepts, for example in the field of customer service and hospitality, see for example (Micah, 2015) [2].

If Naisbitt's book on high tech and high touch looked for as an opponent, we will encounter: low tech and low touch. Are there perhaps areas where low tech and low touch are still relevant?

On the other spectrum, the convergence of technology and also ecological/environmental considerations, leads us to two other possibilities: small tech and also tech wise, the opposites of which are big tech and unwise tech. Of course, it is quite clear that the right technology sometimes does not need to be large and sophisticated, sometimes simple technology

such as a small gas stove, is sufficient for household use in rural areas.

Our proposed approach resembles more to Myer-Briggs's 16 types of personality, including IJNS, IFNS etc.¹ In our scheme, there are 8 characters of approach toward technology which can lead to many variations or we call it 'Permutation.'

PERMUTATION

Without pretending to debate this topic at length, let's do a simple permutation game. For example:

A0 = low tech; A1 = high tech; B0 = low touch; B1 = high touch; C0 = small tech; C1 = big tech; D0 = wise tech; D1 = unwise tech.

So we now have 8 traits of approach in technology. Of course it becomes simpler if Naisbitt's simple proposition: high tech and high touch is denoted as A1-B1.

Then we now permute the possible combinations:

- a. A0-B0
- b. A1-B0
- c. A0-B1
- d. A1-B1
- e. A0-C0
- f. A1-C1
- g. A0-D0
- h. A0-D1

And so on. We can continue this permutation into a combination of 3 and a combination of 4 parameters, for example: A0-B1-C0-D0, and so on.

IMPLICATION: TOWARD SITUATIONAL TECHNOLOGY

Personally, these writers are more inclined

towards appropriate technology. For example in the development of renewable energy, in a previous article, the author has mentioned the term ART (*appropriate renewable technology*). In the spectrum of possibilities above, ART can be classified into: C0-D0, but can also be combined with A0 / A1 or B0 / B1.

But of course this choice needs to consider the context or situation and location in which we must apply the technology.

If it is possible to use the analogy of situational leadership (situational leadership), perhaps this approach can be called: *situational technology choice* (STC). Or those who prefer to use context terms, can use phrases: technology in context.

APPLICATIONS

Does it sound a little too abstract, and less practical?

Let us consider one of the problems, namely distance learning in this pandemic situation (context).

Perhaps a high tech and high touch solution for the problem in question is to provide multimedia high-speed Internet-based education services so that students do not have to go to school each day (combination A1-B1). But perhaps this solution is only suitable in *urban areas* where students are accustomed to using gadgets with mobile internet networks available throughout the city.

But what about small towns or rural areas where 3G / 4G networks are still difficult to reach?

Maybe we need to think about a solution with a different combination, for example A0-C0-D0 (*low tech, small tech, wise tech*). Is there a solution?

Several possibilities that might be considered:

- a. Radio over IP. The latest developments, if I'm not mistaken, are DMR (digital mobile radio) and IP Simulcast.
- b. School-based radio channel: perhaps small-town schools could consider collaborating with

a local radio station. Because radio infrastructure is more affordable, with a good schedule, the teaching process can be done via radio, perhaps a term that can be popularized: "raducation." (education based on radio)

c. Another possibility, for example for more remote areas, is to develop a community radio, or community-based radio channel. It seems a little difficult, considering remote areas also have difficulties in technical personnel, but at least this is one possibility (Christiany, 2015) [6-7].

Science, *techne* and dialogical communication

Now let us put the aforementioned discussions on technological choices and approach to nature into a more philosophical perspective.

It is known that there are natural sciences, social sciences, and emancipatory sciences etc. The main distinction between natural sciences and social sciences is mostly about what and whom to control: in natural sciences, a scientist tries to control nature through comprehension of certain aspects of nature (Stott & Beelders, 2019) [8], which then they be reduced into some kind of laws of nature. In social sciences, a scientist tries to achieve more understanding (*verstehen*²) of certain people or society, in order to properly do dialogue with that society/people. Therefore, it is wrong if a social scientist tries to "control" the society in question in order to fulfil his/her goals, because human beings should not be an object of control, but as mutual partners of dialogue.

Many problems that we found in society come from two chief misapplied sciences: natural sciences which becomes "*techne*"² or technology, which not only aiming to control Nature, animals and so on, but also control people and society. And also, social sciences which work in wrong way to not do dialogical communication to achieve goals as community, but to control each other.

What is distinction between *techne* and episteme? See this entry, which can be paraphrased as follows:

"...a portion of the highlights of this contemporary qualification among hypothesis

and practice are not tracked down in that frame of mind among *epistêmê* and *technê*. Others are tracked down in a fairly refracted style. As we move sequentially from Xenophon to Plotinus, we go from a not creator recognize the two terms, to a little creator use for *technê* in light of the fact that it is such a long ways from what he views as genuine. It is in Aristotle that we find the reason for something like the advanced resistance between *epistêmê* as unadulterated hypothesis and *technê* as training. However even Aristotle alludes to *technê* or create as itself likewise *epistêmê* or information since it is a training grounded in an 'account' – something including hypothetical comprehension. Plato – whose hypothesis of structures appears to be a curve illustration of unadulterated hypothetical information – by and by is intrigued by the possibility of a sort of *technê* that is educated by information on structures. In the Republic this information is the fundamental reason for the thinkers' specialty of administering in the city. Getting one more topic in Plato's discoursed, the Stoics foster the possibility that prudence is a sort of *technê* or art of life, one that depends on a comprehension of the universe. The connection, then, at that point, among *epistêmê* and *technê* in old way of thinking offers a fascinating differentiation with our own ideas about hypothesis (unadulterated information) and (experience-based) practice. There is a close sure relationship among *epistêmê* and *technê*, as well as an essential differentiation."³

To these wrong applications of science, which often happen because of either socialism or capitalism, then comes a third possibility: emancipative sciences, which are aiming to liberation to the aforementioned "*techne*" stronghold.

Last but not least, our suggestion to adopt situational technology choice is intended to suit each technology in a particular location and geography; nonetheless when educators wish to integrate these choices of technology into students' learning process, they shall learn how to introduce to them by virtue of Bloom's taxonomy and Vygotsky ZPD approach, for instance.



Figure 1: Bloom's taxonomy to integrate technology (cf. [15])

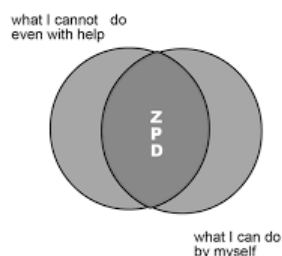


Figure 2: Vygotsky ZPD

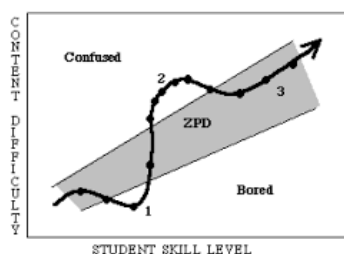


Figure 3: Vygotsky ZPD, to introduce new things in tune with student's skill level

Added note:

¹As an alternative to Myer-Briggs's personality types, FS has developed his own Neutropsychology scheme. In psychology, he introduces:

Neutropsychic Personality that is a neutrosophic dynamic open psychological system of tendencies to feel, think, and act specific to each individual.

Neutrosophic Refined Memory: that restructured the division of memory into: *consciousness*, *aconsciousness* (which he introduced as a blend of *consciousness* and *unconsciousness*), and *unconsciousness*. *Aconsciousness* was further subdivided into *preconscious*, *subconscious*, *semiconscious* = *semiunconscious*, *subunconscious*, and *preunconscious*. All memories have degrees of conscious (c), acounscious (a), and unconscious (u).

Refined Neutrosophic antiTrait –Trait Diagram, that each individual has a *degree of antiTrait* and a *degree of Trait* with respect to each antiTrait-Trait personality pair. And the *Neutrosophic Temperament*. Interested readers are advised to consult [14].

²<https://medium.com/@umfarooq0/verstehen-max-weber-and-an-approach-to-social-sciences-f95ad578aa9b>

³<https://plato.stanford.edu/entries/episteme-techne/>

CONCLUDING REMARKS

Thus, a few simple thoughts may be useful for educators and also schools that will start the teaching and learning process in the next academic year. In this paper the technical aspects are deliberately not discussed, because this requires separate considerations.

To summarize the aforementioned arguments, in the present article we submit a new approach in relation to Nature and technology, which is more modest and humble; rather than a techno-utopianism version of reality that most futurists argue for. Our proposed approach resembles more to Myer-Briggs 16 types of personality, including IJNS, IFNS etc. In our scheme, there are 8 characters of approach toward technology which can lead to many variations or we call it 'Permutation.'

In this sense, small tech-high touch can be viewed as one way to counter the pragmatic-hegemonic practices of techno-utopianism, especially with high tech, big tech approach. That is our perspective, which may be influenced by people-centered economics-way of thinking cf. E.F. Schumacher, along with dialogical philosophy of Martin Buber (a Jewish philosopher).

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