General Systems Theory : A Long Term Experiential Simulation : "Break the pattern which connects the items of learning and you necessarily destroy all quality." Gregory Bateson, Mind and Nature

研究ノート

General Systems Theory: A Long Term Experiential Simulation

"Break the pattern which connects the items of learning
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Gregory Bateson, Mind and Nature

ウィルキンソン　ヴァレリー
Valerie A. WILKINSON
静岡大学大学院情報学研究科・教授
vwilk@inf.shizuoka.ac.jp

Abstract: Consideration of the social architecture of this research project finds the volunteer members of society and senior students to be stakeholders who require incentives to cement their symbolic roles as participants to provide requisite variety for the community support of the simulation environment.

keywords: General Systems Theory, complexity, emergence, experiential learning, mapping, real-time learning

論文概要：この研究プロジェクトにおける社会構造に関する考察をとおして、社会と上級生のボランティアメンバーは、シミュレーション環境におけるコミュニティの支援のために必要とされる多様性を提供するという参加者としての象徴的な役割を固めるための誘因を必要とするステークホールダーであることを示す。

1.1 Introduction

"The Communication Project" is connected to an English class. It is a workshop in organizational communication for university sophomores, an open-system laboratory, and a community simulation. Periodically, as a General Systems Theorist (GST) and practitioner, I must evaluate "my own" research project. The class is Communication Skills 2 and I am a teacher of oral English to freshmen and sophomores in a Faculty of Informatics in a multi-faculty National University. The problem already contains complexity, because members of the University hierarchy have multiple roles and functions. One person is a teacher, scholar, and an administrator.

The teacher role provides context and structure and the language teacher role supplies the language and protocol of meetings. Did I say "teacher?" Does that mean up-to-date in research? The role of professor is observer and researcher. Did I say "professor?" Does that mean state-of-the-art expertise and current publications? To supervise and facilitate is to be a participant, and research must wait for a time of reflection.

How does GST give a context? My working definition: The study of whole living systems in their environment using tools and methods, both physical and abstract, from a variety of academic or scientific disciplines. Living systems are life forms with permeable boundaries that exchange

information with the environment. For example, autonomous teacher and student life forms share in a defined interaction for a specific length of time in a class with an education mandate from the university. We focus on three interconnected, or nested, complex life forms: the self, the group, and the community.

My thesis is this: a community event organized by students requires the presence of older students and significantly connected community members to achieve its purpose. At first, I thought I could guide a group of students to build teams, but then I needed former students and an English speaking community to help create the environment. Modeled as it is upon community events that students know and have experienced, the simulation of a community event is actually structured with the same symbolic roles that were enacted when the students were in primary school.

1.2 Research Base in GST and Communication Studies:

I have a thesis and a wealthy theoretical base, but where do I find my models? I find them in the study of Behavioral Science and Communication. In the huge field of Communication Study, I discover leads guided by Gregory Bateson to scholars of his time and his legacy, and emerging work in my own time. Some of these will appear in the following narrative of the research venture. For the moment, however, I will mention but two: Symbolic Interactionism (Blumer) and Coordinated Management of Meaning (Pearce and Cronen). For the moment, let us black-box these two complex nodes and strands of intellectual thought and practical analysis. Suffice it to say, the choices of scholarship are guided by the search for nested living systems in open environments that exchange energy with the environment. This quest for emergence and equilibrium has its roots and foundation my own life, in the experiences of 30 years living in communities in Japan, my experiences in my current faculty, with Gregory Bateson as my guide and mentor.

1.3 Create the Field and Set the Stage: Enactment of Symbolic Roles

In the local Japanese public primary school that my children attended, students participated in a Sports Day event and a School Festival event, and numerous other activities that involved families. The Sports Day event was organized by teachers. Students were divided into teams by color (blue, yellow, red, white) and grade. A select group of students announced results on the speaker system. Families were the spectators and brought special picnic lunches and everyone had a nice time. The School Festival was largely produced by the PTA with cooked items, snack, game events, jumble sale, and so on. The plan was laid out over several months and everyone played their part so that the elementary school students would have fun in the community event. Actually, during the year, many events were held which brought families to see the art, a class, and hear the music of their children. Building on that pattern, the experiential class for sophomores organizes freshmen into a collaborative community event which symbolically replicates something we all know.

1.4 The Coordinated Management of Meaning in the Educational Environment

The 18 year old person leaving home for the first time must become adapted to a new environment far from home. The school arranges certain activities to help them feel welcome, to make friends, and know that they are safe. There are lots of clubs and circles to ease the stress of the

academic challenges. There are also events: Spring Festa, Sanaru Relay Race, Tanabata Festival, and Techno Festival. Here the community plays a role. Alumni bring their families. Community members come. There are shops, stages, and many delicious foods. We must have visitors; we must have guests. The chance to interact with the community is part of the educational experience, part of the extracurricular environment.

The class for credit is a system composed of student-member elements, plus teacher IN a university. The class progress resembles a story, from the first day introduction to the final report. Every class session (chapter) is organized as a sub-process. All the members of the class are part of it. The task of the class is to build a team and present a sequence of extracurricular events, similar to club meetings, leading up to The Star Festival. This is to say, they must organize themselves (display self-organization), the event, and the experiential information according to principles and criteria from a variety of disciplines. According to the syllabus, students are presented with a number of organizational concepts. The student organization exercises autonomy, to choose leaders, and appoint teams.

The interesting thing is that students know basically how to do it. They can self organize, plan quantities, do a practice run through, and cook a dish for guests. To do this in English, to write charts and schedule in English, that is the ostensible reason for this project. The exposure to the English, the inherent challenges of doing the team work and keeping to a schedule, all make for a valuable experience. Then they write up the report in English.

The social structures, the self, the team, and the community, are all happening at once. A variety of skills come into play. For the course, I facilitate understanding of interpersonal relations. The concept of management support training guides cooperation to assist leaders and build know-how.

As the course went from "required elective" to "elective" changes happened. Certain changes in the student structures and the vertical relationships have definitely altered the balance. For many years, we could count on the "Gakusei kai" (Faculty student club) to participate. Freshmen, sophomores, and juniors would gladly participate. Something happened to drastically weaken the club. The delicate social environment changes, and so do the seasons.

This present report is the summary of the core truth that a community event requires the support of the extra-mural community and the extra-curricular participation of former participants, so that the adolescent persons who are developing in this university environment, which is permeable, and no ivory tower, may develop communicative competencies in preparation for full citizenship.

2.0 Overview of "The Communication Project"

What are the questions to be asked of an experiment? If the "event" is not "just a party" for this year's sophomore students to enjoy, what will make it a good research project for students? Professors might ask, "Does this project generate further study, new insights and theories, viable business plans, and valid organizational experience for students? How has the project been documented? Have records been kept?"(see Figure One)

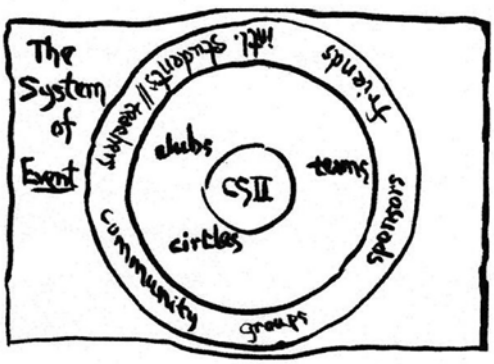

Figure One: For the Record

If we look to the mission of the university, and ask the student support staff and the alumni association about function and validity of this class, we have other questions. Do the students develop good relationships, self-esteem, and important people skills? How do they manage leadership? What can they learn in this program for use when they become gainfully employed members of society?

The researcher in GST asks different questions, such as: how does this open-system life-form behave, do we observe "self-organization," what kinds of system properties emerge, and are they wholesome. Does the system replicate itself? What measures are used to calibrate and punctuate the experience?

The organizing team, cooking staff, and performing participants, all members buy "staff tickets", which represent the base-line fee for participation in the event and membership in the research project. If more than 100 students act as "staff", and only 100 people participate as guests, is a party for more than 200 people a success or a failure? Who is asking? While the manager of a business for profit would surely say, "The fewer staff the better," the manager of an NPO and volunteer organization might say, "The more the better." Is there any way to sort this out? Could one merely say, "The project was executed without untoward incident." Would that, in any sense, be an adequate evaluation?

Then there are guests, whether student guests or members of society. So "too many staff" or "why so few guests" are inadequate responses to a request for information. It would be better to ask: "What is the purpose of each team and how were teams staffed and structured?" "Who, exactly, are the guests, or what is the profile of a guest?" "How many guests have come more than once?" "Why did the guests come?" "What is the cost of participating in the event?" One could ask many other questions, some helpful, some misleading, each from a particular point of view.

It has not been possible to get any sophomore students to be interested in any of these questions! In some years we could prepare and administer questionnaires on the day, in some it was impossible. It is also difficult to prepare guests to tolerate an extra minute or two to write.

The researcher herself asks for results informed by the related research and practices in the field. In this case, in a university in Japan, there are very strong contextual clues to see this simulation as a club, a voluntary activity and an extracurricular "workshop". On the other hand, "the event" is also organized as academic class in a Faculty's educational environment, within an academic world. As such, it provides patronage and legitimacy to researchers such as me. After 14 years in the classroom and participation in the event, I have long known, and every member knows, that you cannot execute an "event" such as this within the time/space constraints defined by a scheduled academic class, 90 minutes per week.

One could say that experiential learning is the most difficult to assess in a class. You may be able to evaluate individual projects but giving credit for group work and team work is complex. There are always two axes: one axis represents the individual student's accomplishments while the other evaluates the contribution to a team activity. This is a gnarly problem, and always has been, because if the groups are to be autonomous, the evaluation has to have two axes: one represents the total "grade" for the group as a whole and the second includes the individual evaluation for each team member. A mishandling of this second axis can have an astonishingly negative impact on the whole educational environment.

The venue "laboratory" is a multi-purpose space on the university grounds. The event hall

where we physically conduct the event is used for many purposes, such as classes, lectures, routine medical examinations, as well as popular club events. The extracurricular space has a permeable membrane, with features resembling a classroom and a club. Therefore, members from the whole student population can enter and participate, either as volunteer staff members or guests. Remember that the student population is not the population of the city at large. They are university students working on an academic degree. All students are engaged in professional level tertiary education, so that they can enter the work force with professional qualifications.

The students, who are both the subjects and clients, participate for various reasons, some informed by academic aspirations, some for fun with friends. All of them choose to be there. Strange as it may be to say this, the students are not confused about what to do or how to conduct themselves, at a certain introductory level, to get started. In addition, all of the students are select members of this academic community; they are here for a reason. This event is for their education and development.

In the university, this experiment in activity learning is only one of many contextual/procedural engagements, which students may choose. They can also participate in the school festival and other faculty and club events. After a variety of curricular and extra-curricular "experiences" at the university, they graduate and enter the society, rewarded with the degree and equipped with what they have learned.

The "Communication Project" is itself a community simulation, i.e. the organization, development, production, and evaluation of a community event, such as a school festival, a celebration, an amateur play, Sports Day at elementary or middle school. We've been organizing this event since the year 2000. It has been a startling experience every year. Every year brings new challenges in creating the core team, recruiting the staff, and inviting the guests. Change is a keyword. In the year 2007, a game-changing twist happened.

The game-changing twist was a display of significant emergent behavior, or **emergence**. In 2006, the first class of students in the new three-program (ID, IS, CS) curriculum became 2nd year students, ready to take the second year conversation class. Then in 2007, after an interesting reversal in the election process, something monumental happened. A member of the ID program, a young woman, made a campaign speech that advocated a more dynamic event program than had ever been envisioned; it was a "coup d'etat." The Party or the "organizational event" that was connected with sophomore English, was embraced by the students as their own. While it had never been "mine", it clearly showed its true colors and lineage at that moment; it belongs to the students.

Nonetheless, I am required to be there to supervise it and sponsor it. It is my class and I am the functionary with the responsibility to be accountable. I am responsible for what we do. Moreover, I have to schedule both summer and winter events months before any students plan to be involved. My authorization is required for a number of the preparations. I continue to conduct the simulation both for the scaffolding and zone of proximal development afforded by the community event for young people on the verge of adulthood.

The Summer Happening and the Winter Happening, collectively known as The Party, are instantiations of a Japanese life-form, born in Japan, raised in Japan, and a native of this place. It is 20 years old (the age of most of the managers), and has self confidence, power, beauty, and unmatched bravado. That is a description of the organizing team. Furthermore, we must also show results

of the research. We require a description of the organized behavior of 220 people who join the event to contribute to the understanding, and evaluation, whether by managers, faculty members, or participants, of this event managed by a class of sophomores.

A scholar of literature, drama, and art might well turn to metaphor for conceptual assistance. A winged horse or flying dragon that visits us and whom we have to take care of, might hold within it sufficient imaginative power to capture the mysterious paradox.

2.1 Framing the Topic

2.1.1 Theoretical

On the theoretical side of the discussion of experiential learning at the university, one might start with Erving Goffman's *Frame Analysis: An Essay on the Organization of Experience* (1974). With his primary frameworks, keys, and keying we have a solid basis for organizing, framing, punctuating and interpreting "strips" of experience. Goffman himself points out that "the question 'What is it that's going on here?' is considerably suspect. Any event can be described in terms of a focus that includes a wide swath or a narrow one… (8)." How far back should I choose to go or with what words to achieve a genuine genesis for this investigation?

I wrote an article in 1987 with the title "Systems Theory: a New Syllabus for Oral English." As a part-time University teacher asked yet again to teach "English conversation" to Japanese freshmen and sophomore, I was trying to come up with an interesting approach for "false beginners", who had 6 years of English as taught in the public education system. This is what I came up with:

> In conducting a class called "Information Systems and Communication" as University Oral English, certain assumptions are proving successful. The syllabus comprises terms and concepts drawn from General Systems Theory (GST). The matter is daily life. I teach by means of student presentations, small group discussions, and short reports for feed-back, with sparse text and lecture material.

The second year English class that I am now teaching, in 2013, starts with the same basic framing. It is a class planned around daily conversation practice, presentation with discussion, and an organized project about which to write reports in English. The theoretical framework provided by GST is both loose and amenable to adjustment, and can provide a rational organization of experience for students of any major whatsoever, if they care to work it.

The idea of the final report based on real-time life experience goes all the way back to my conversation classes in 1982 at a junior college in Nagasaki. I did not want students patching together essays and borrowing other students' essays to write their report. I wanted them to write from the point of view of someone who was really there and did what they describe. This "report," based on real-time experiential learning, was the nesting place of the marvelous, mythical, yet juvenile, creature of Japanese ancestry.

2.1.2 Practical and Applied

On the practical and applied activity side of the discussion of experiential learning is a three level model of experience beginning with Level One: Team Work, Level Two: Organize a team or event, Level Three: Pass on "know-how". These levels are loosely associated with the school year level, so first year students would be encouraged to join with a team, second year students would manage a team or event, and older students would

participate, along with friendly members of the society, in third level learning, passing on "know-how".

How can we induce seniors and society members to come? That is always the question and the topic of this essay. Can senior students and community members be invited to "hang around" vigorous self-absorbed sophomores? The answer hiding in fourteen years of experience and a study of applied Game Theory (GT) is that they cannot be induced to join unless they can feel that they are members and stake-holders.

3.1 GST and Me

I come to Bertalanffy's General Systems Theory by way of Gregory Bateson. I have derived my theories of open systems, living systems, and information primarily from Gregory Bateson. After I began reading Bateson, it was inevitable that I would eventually be drawn to read von Bertalanffy on GST (1950/1968), Norbert Wiener on *Cybernetics* (1948/1961), and von Neumann on *Game Theory* (1928/1945).

For a concise definition of the GST approach, and taking into account the translation problems between German, the original language and English, we have Bertalanffy:

> Thus, there exist models, principles, and laws that apply to generalized systems or their subclasses, irrespective of their particular kind, the nature of their component elements, and the relations or "forces" between them. It seems legitimate to ask for a theory, not of systems of a more or less special kind, but of universal principles applying to systems in general. (GST p.32)

Hence, I began consciously and with intent to practice *General Systems Theory* in my educational activities from 1986, both for content and applications. The "general scope" of focus permitted an exceptionally wide spectrum of specialized presentations of content while the general procedural approach was rather abstract and ideal, and could be shaped at will to a wide spectrum of contexts. This calls for a "two axis" paradigm for content and procedure. Apply the "general scope" to the self, the team, and the community or, for another series, the cell, the system, or the meta-system. These are "nested levels of organismic life."(see Figure Two) One then applies the "general applicability" of meaningful discussion of context to a specific classroom, a clubroom, or a specific game on a specific day on the sports ground on campus, or an actual real-time activity in The Alumni General Purpose Event Hall.

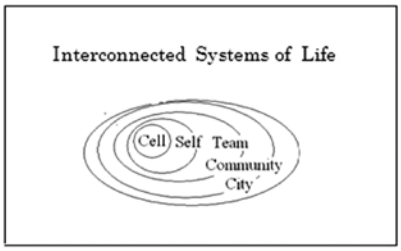

Figure Two : Nested Organismic Life

The beauty and utility of the general nature of the GST study affords an enormous range of application and context. For each individual case, however, enormous specificity is required. Without individual personalities and on-the-ground decision processes, and the experience of the far ranging effects of miscommunication, a general report would be too vague and quite meaningless.

2.2 GST and "The Communication Project" : A Brief History

In Year 2000 history worldwide did not report any major electronic and technological disruptions due to Y2K, when it was supposed that infrastructure clocks might "zero" at midnight,

Dec. 31, 1999. Our Faculty, which was "born" in October, 1995, had just moved to Hamamatsu from Shizuoka City. That April, I began to teach a sophomore English class, and we had a plan. Or, at least, I proceeded to tell them the plan, and we started to think through the management of a summer party. The class was scheduled as a Required Elective, and I had 24 students. I had done this very project many times before at other schools, but this was the first time at the Faculty of Informatics at the Hamamatsu Campus of Shizuoka University.

There was a discussion of ideas and images of a summer party. The students wrote their ideas in English on paper, and elected a leader to coordinate the members of the class. The party was going to be held on June 28th, a Wednesday. We talked about what kind of food we'd like, what clothes we'd wear. Someone said that we should invite international people, exchange students and visiting professors, because this is an English class. We'd make homemade food, a sort of American "home-party", and invite friends and members of the community, with special attention to international exchange students. We'd have fun making a poster and selling tickets.

It was conceived as "The Communication Project" from the beginning, to be framed as a research project in GST. Why was that Year One? That Summer Party was The First Party held by Communication Skills 2. This is year 14. We have been running the simulation every year since then. Sometimes the organization was composed of a class of sophomores; sometimes the sophomore class provided staff. The goal was certainly to have the organization composed of a class of organizational communication, or organizational behavior, but the "*ad hoc*" reality forced us to improvise. The curriculum changed several times. In Year 14 of the Communication Project, which has been organized twice a year with the exception of only summer party 2001, we have a record of proceeding in a world of profound change.

There has always been quite a bit that we didn't know how to do.

Of course, the need for evaluation was embedded in the "project" part of "The Communication Project" from the start. The final obligatory report is always to be an evaluation, in English, of the individual experience as an autonomous "self," of the job in the team, including the title of the role and the duties, and the relationship of the event to the major program, ID, IS, or CS and the society that students would be entering as members.

3.3 GST and the Class/Event.

What does GST mean in an event which simulates a real-time seasonal community event, with managers, participants and guests? In the course of time, our attention devolves upon three living systems: the self, the team, and the event in the community. These derive from Bertalanffy's "new paradigm of living structure", what he calls "a general science of 'wholeness' (p.37). Helen Durkin, in the book *Living Groups* (1981) describes Ludwig von Bertalanffy's "unified theory of biology" as follows:

> "Living structure is not inactive and static, but active and dynamic. He found that over time living systems develop a hitherto unrecognized phenomenon which he called "*Fliessgleichgewicht*" or "flux equilibrium." … Living, or as he often called them, "open systems" have permeable boundaries which the system is inherently capable of opening or closing. Consequently, each system is able to exchange energy and information with other systems and with the

environment." (p.12)

The self is a whole, living system with permeable boundaries by which it exchanges energy and information with other systems and the environment. One can indeed isolate oneself by closing boundaries too much, or by opening the boundaries too wide, be overwhelmed by floods of unsorted information and energy. A new student adapting to life at a university is a life form faced with the challenge of finding a "stable state" or homeostasis in a new living situation. A team is also a life-form, an autonomous structure composed of individuals which develops "group cohesion" as it goes through observable stages of group life. The permeable boundaries can become resistant and self-isolating or fluidly harmonizing, "sharing vision" with the larger organizing body. Finally, the "support community" is itself capable of becoming an organism, finding its own entelechy within. (See Figure Three)

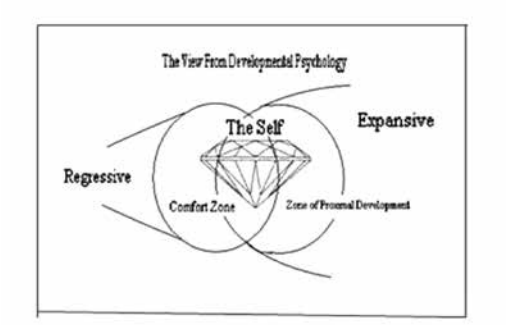

Figure Three : Zone of Proximal Development: The Self, The Team, The Organization

3.4 The Evolution of Textual Support for the Class

We have been working since the year 2002 with Peter Senge's *The Fifth Discipline: The Art and Practice of The Learning Organization* (1990) The system thinking of The Fifth Discipline is a premier offering in system thinking. It offers us "The Art of Seeing the Forest and the Trees." We can also find an index of the "system archetypes" to observe and describe with examples. We use "Personal Mastery" to consider the development of the self. "Team Learning" considers the development of the organization. "Shared Vision" speaks to the goals of the organization, but also to the emerging sense of community which binds us all together in the event.

If I speak of "Community Building" it is because the event does not occur in a "tabula rasa". I have friends in the society because our children went to elementary school and their children are also going to the university. Also club members, and the members of the student body, who participated in their own primary education, know from a lifetime of experiences what an event looks like. The Party, however, looks like an event, but is organized by a certain class group of students who organize a number of 1st year students and clubs to cook, serve, dance and sing both for themselves and the community.

As we gained experience, we also added texts. In 2006 we began to use the *Project Management Body of Knowledge* (PMBOK) at the suggestion of the late Prof. Ichikawa. This "Guide" provides excellent charts and divisions of labors. We always have to consider how to price things, how to set up the budget, how to keep records, and do "due diligence" to clean up after the event. Then in 2008, through my involvement in culture/historical activity research, we began to discuss Lev Vygotsky's paradigm of developmental psychology with the concepts of "the zone of proximal development" and "scaffolding".

3.5 GST as a Generalist

We could put a sub-title to this section, putting the "general" back into system thinking, and making sure it stays there. Ever since I came to the Faculty of Informatics, I have been working

as an English teacher with both Science and Humanities students in Informatics. I also teach English to Engineering students. Most students start as freshmen and then become sophomores. The "*freshers*" generally arrive at around 18 years of age, get used to living away from home, learn to manage course load and their own daily life, and then, at the end of the first year, make the decision about which program they will join, whether it is Information Society Design (ID), Information Systems Management (IS), or Computer Science (CS). (See Figure Four)

I teach English, not about their major subject to majors, but to all freshmen. The English language is one mode/code of communication that the Nation of Japan has determined to be of sufficient value to University students to be an ancillary requirement for graduation.

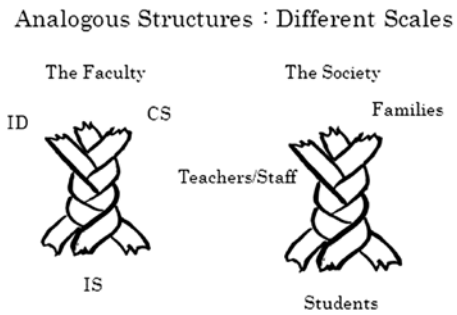

Figure Four: **One Cord – Many Strands**

This is to say that students can survive without English but communicative competence can open doors and avenues and contribute to personal efficacy. The point is that general oral and audio language abilities ought to be general. Specialization is all very good in its place, but broad, deep, and wide language ability is a permanent desirable goal.

So, I am a generalist, which means in theoretical and practical terms that I must be able to create an class room environment which obeys a law set with a double axis, imposed by an interaction of the lowest common denominator (LCD) determined by the level of the students with a bar, or achievement level, set by the challenges offered by the instructor. This is certainly not a simple algorithm to be applied to a group; it is rather an art than a science. We can effect a productive environment with a practice that relies to a large extent on expectations and available talent with a supportive community.

General Systems Theory provides a sound, yet general theoretical and methodological basis of the ongoing Communication Project in the Faculty of Informatics.

3.6 The Unified Structure of the Event

The event is a microcosm, a tiny world. There is too much going on in one event or with one team to map it all. Every sophomore brings unique qualities and blockages, with an ID, IS, or CS bias, a personality which has been developing since birth from somewhere else. The simulation is enacted in a real time and place.

If we want support for this community event at this university, then, it is hopeful that senior students and adult members of society will wish to volunteer. I know what does not work. It does not work to badger people or try to make them feel burdened with guilt. In 14 years of begging, borrowing, and stealing "volunteer" participation of seniors and adult friends, I know that they will not do it unless they can clearly see "what's in it for me?" To be stakeholders, they require incentives. Pleasure, sense of belonging, and social recognition are among the possible rewards. Financial rewards are possible but create problems.

Learning is one of the behavioral sciences and requires an understanding of the

interplay between cultural context, cognition and development. There is architecture of the learning environment of the university. Students navigate among art and science core requirements, their specialty, seminars and extracurricular activities. The infrastructure of classroom buildings, library, and technical facilities houses them, and the educational support staff provides assistance and council.

The sophomore communication class is task based language learning (TBLL), combining English language with event planning. We have a double class period: the first is the scheduled class and is academic and structured; the second is in the evening, and more "like a club". It is still a meeting, but less formal and includes a certain amount of relaxed conversation over tea and snacks. Actually, it really is voluntary. However, people who want to be part of it show up, taking personal responsibility for the event.

I've used Vygotsky's foundational work to help clarify learning as unified. With the article by Jennifer Vadeboncoeur, I have broadened my own comprehension of the concept of *feeling* as relevant to learning in school environments and across the life course. In the modern age, schooling extends through the university and advanced degree work. There is a perennial tendency in any academic environment, whether in the west or Japan, to dichotomize cognition and emotion, and then prefer the former over the latter and make decisions from that preference. An experiential lab helps establish a balance of tendencies and promote respect for those with strengths in the emotional domain.

The use of concepts of the zone of proximal development with scaffolding (support) give students moving through childhood to adulthood a space to develop, as whole people, not only in their intellectual growth, but also their social and emotional capacities. For Vygotsky, education was to be a central influence in shaping and fostering cultural development. I never forget that the university is the next level of schooling in our civilization. (Vadeboncoeur and Collie).

4. Conclusion

As this treatise draws to a close, I will invoke again the poet William Blake and some introductory lines from Gregory Bateson's *Mind and Nature: A Necessary Unity.* First Blake's poem:

> To see a world in a grain of sand
> And a heaven in a wild flower,
> Hold infinity in the palm of your hand,
> And eternity in an hour. (*Auguries of Innocence* lns. 1-4)

The university, professors and staff, stands in "loco parentis," in the place of the parents. The children grow into adults before our eyes, as they come from their prefectures and foreign lands to ready themselves to be adults in the society. My students are freshmen and sophomores and I teach them English conversation. I am qualified to teach university students because I have a PhD and years of university teaching experience. It may be worth noting that I am also a mother, a daughter, a sister, a wife, and at the culmination of my professional life, a scholar and a teacher. One of my favorite quotes from Chaucer:

> "And gladly wolde he lerne and gladly teche"
> Geoffrey Chaucer. "Prologue to the Canterbury Tales."

I am an amphibian; I am not one thing or the other. I am all of them at the same time, passing on my learning through language and extracurricular activities, just in case someone wants to learn. Without powerful analogies, the art of metaphor, the arts of interpretation and manifestation, we would be stuck here with only the here and now. Sad to say, freshmen and sophomores know just what to do

with today, but they cannot think about tomorrow, or younger or older people, or people outside their sphere. They require an educational environment where trusted seniors and kindly wise elders know and remember, and are willing to nod and smile and listen, and perhaps murmur, “Is that advisable, do you think?”

So, I will turn back to Gregory Bateson and GST to conclude my treatise:

> It became monstrously evident that schooling in this country and in England and, I suppose, in the entire Occident was so careful to avoid all crucial issues that I would have to write a second book to explain what seemed to me elementary ideas relevant to evolution and to almost any other biological or social thinking - to daily life and to the eating of breakfast.

We literary folk talk in terms of stories. So do anthropologists and biologists and all sorts of behavioral scientists, for as Bateson says, “A story is a little knot or complex of that species of connectedness which we call *relevance*.” But Bateson follows the thread of story and relevance right down to context. I quote at length:

> Context and relevance must be characteristic not only of all so-called behavior (those stories which are projected out into “action”), but also of all those internal stories, the sequences of the building up of the sea anemone. Its embryology must be somehow made of the stuff of stories.

Finally, Bateson concluded his long introduction with the decisive connection between context and meaning. Again I quote at length:

> And "context" is linked to another undefined notion called "meaning." Without context, words and actions have no meaning at all. This is true not only of human communication in words but also of all communication whatsoever, of all mental process, of all mind, including that which tells the sea anemone how to grow and the amobea what he should do next.

Symbolic Interaction and the Coordinated Management of Meaning draws together interesting friends from around Japan and the adult community. More later! The Peripatetic English Teacher.

Glossary

black-box : A device of theoretical construct with known or specified performance characteristics but unknown or unspecified constituents and means of operations. (Free Dictionary) Almost anything might be referred to as a black box : a transistor, an algorithm, or the human brain.

community simulation : in an open-learning simulation each member is a participant playing an assigned role. To enter the laboratory, one enters the site through an entry gate, and enrolls in the system. Ideally, participants will also submit an exit survey.

complexity : The definitions of complex science and complexity in systems include cognitive science, behavioral sciences, communication theory, cybernetics, game theory and general systems theory. The study of human communication in complex systems is the study of complexity.

dialectic : In the Middle Ages in Europe, dialectic was one of three courses in the trivium. It also includes or is synonymous with logic. There are specific “dialectics” which are productive of discussion in an academic context. The dialectic defined by the humanities or sciences, a dialectic between abstract and applied theory, teaching and research.

double-bind : “wrong if you do, wrong if you don’t,” contradictory double imperative. First described by Gregory Bateson and colleagues in 1956.

educational environment : the learning environment has an architecture and structure to support, enhance, and reinforce target learning. In the case of university education, academic

and extracurricular facilities are installed and maintained, and staff employed to provide and support training. Direction and oversight is understood to be part of the institution.

emergence : (economist Jeffrey Goldstein) "the arising of novel and coherent structures, patterns and properties during the process of self-organization in complex systems".

evaluation : open-system learning environment requires evaluation and confirmation to establish goals and boundaries, progress and development, and personal achievement. Evaluation also includes review and reflection.

experiential learning : An experience-based model of learning (Kolb). Interconnected themes include activity theory (Engestrom) which dialectically links the learner and society, and situated/situational learning (Lave/ Wenger). Experiential orientation engages a community of practice and involves repetitive developmental activity in a framework with structure, location and duration.

framework : The framework or framing of the community simulation provides a means of indexing and recovering the meaning of experiences which occur with the simulation. The framework also aids the symbolic connection of the simulation with other community activities through the life course.

General System Theory GST : A scientific effort, understood to have been initiated by Ludwig von Bertalanffy, to identify structural, behavioral, and developmental features common to living organisms and principles, structures, and processes valid to “systems in general.”

information : Gregory Bateson’s definition “any difference that makes a difference.” (*Mind and Nature*)

open-system laboratory : an experiential simulation which structurally replicates and models a social event in the society, with boundaries, a gate, participatory roles, and evaluation procedures.

organize : Arrange into a structured whole ; order. Make arrangements or preparations for an event or activity. Coordinate.

paradox : Experiential learning sets up a paradoxical situation in which the classroom is not defined by a physical space and class time is not by the clock. A number of productive paradoxes exist when learners are teachers, scholars are cooks and accountants, when a class is like a club, etc.

requisite variety : The law of requisite variety states that the larger the variety of actions available to a control system, the larger the variety of perturbations it is able to compensate. (Principia Cybernetics Web)

scaffolding : Instructional scaffolding offers an analogy with building scaffolding, providing students with an effective learning environment for doing something beyond one’s independent efforts, achieving a learning objective with support and guidance. (used with ZPD)

self-organize : Ability of a system to spontaneously arrange its components or elements in a purposeful (non-random) manner, under appropriate conditions but without the help of an external agency. (Business Dictionary online) Used by Norbert Wiener in Cybernetic theory.

task-based language learning TBLL : This form of contextual language training is usually limited to specific tasks in specific situations. However, in Project Management the tasks are defined by the jobs, procedures, over a period of time. With the use of charts, diagrams, and keywords, the experience can be mapped cognitively.

volunteer : Participants choose to join and are not compelled to do so.

zone of proximal development ZPD : with scaffolding, associated with Vygotsky, though the term was never used by him. Tasks which expand a learner's range of competence.

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