Article

Exploring student engagement dynamics:
Initiating model-building from a case study

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Introduction

This report presents a case study that explored student engagement in an oral communication course at a private Japanese university. Employing concepts and procedures from *classroom dynamics* (Tudor, 2001; van Lier, 1996) and *grounded theory* (Strauss & Corbin, 1998), the study examined longitudinal change in one student's engagement propensities and the factors influencing that change. Relying on response journals, called *action logs* (Murphey, 1993) (see Appendix 1), and interviews, engagement factors and their interrelations were coded employing NVivo (Richards, 2006), a type of *qualitative data analysis software* (QDAS) (Tesch, 1990; Weitzman, 2000). This coding contributed to a qualitative description of engagement propensities and factors influencing engagement, which developed into a *Model of student engagement dynamics*. This case study illustrates the complexity of student engagement and the primacy of feedback in raising participants' awareness and restructuring of engagement propensities. Implications for classroom practices and future research are also discussed.

Background to the Study

Oral communication classes at Japanese universities typically emphasize motivating students to speak (Pellowe, 1996; Yamato, 2002) and overcome reticence and shyness (Bronner, 2000; Doyon, 2000; Jackson, 2002). This reticence is described by Enns and Cox (1999) as including "*socially prescribed* perfectionism, concern over mistakes and self-criticism" (p. 783, emphasis added). Though illuminating research is appearing (Nakamura, 1996; Ozeki, 1996; Sakui & Gaies, 1999), dealing with silence — often *perceived* as a lack of engagement — remains high on the list of difficulties in teaching and learning a foreign language in the Japanese context (Helgesen, 1993).

Qualitative data analysis software (QDAS) are computer programs designed to assist in analyzing qualitative data (Richards, 2002). NVivo, the software used in this study, provided tools to assist with repetitive tasks and the ability to subdivide data into categories (Dey, 1993, p. 137). These categories or codes "are tags or labels for allocating *units of meaning* to the descriptive or inferential information compiled during a study" (Basit, 2003, p. 144, emphasis added), whether words, phrases, sentences, and so on (Stevenson, 2001).

In this study, engagement factor categories were developed from trials with action log and interview texts, combining a *grounded* approach (Strauss & Corbin, 1998) that allowed categories to emerge from the data, and *a priori* categories supplied by Williams and Burden (1997) and Dörnyei (2001). There are 6 *internal* (**B**eliefs, **I**nterest, **C**ourage, **A**bility, Perceived **V**alue and **S**ense of agency) and 6 *external* (**M**aterials/activities, **P**eers, **T**eacher, **O**ther people, **L**earning environment, **G**reater context) categories (capital letters in bold are used to represent categories).

The text, "`I enjoyed talking with partners`," for example, could be linked to categories representing internal and external engagement factors, such as *Interest* ("`enjoyed`") or *Peers* ("`partners`") (Courier font is used to

indicate text from students). Through coding, I was able to examine instances of a *representation of qualitative meaning*. Since the example above is coded as both *Interest* and *Peers*, a search could be conducted showing the instances when one, the other, or both (i.e., the *intersection*) occurred. The intersection of factors would mean something like "Peers influenced my interest" or "Peers and interest influenced one another."

NVivo has a variety of other display functions including *key word search*, *proximity*, and *intersection* (i.e., the meeting point of 2 coded categories) (Bazeley & Richards, 2002). I used NVivo to derive *Engagement Factor Intersections* (EFIs) to pinpoint significant interrelations (See Appendix 2 for exemplary intersections). I subsequently employed Strauss and Corbin's *open coding* and *axial coding*, which relate categories around a central theme (axis). I explored a dominant theme *Meeting expectations* to provide a detailed description of one student, Kumi (pseudonym). I coded her action log text for the 5 fundamental elements of GT axial coding which are: 1) *causal conditions/formative events*, 2) *intervening conditions/engagement factors*, 3) *adaptive strategies*, 4) *actions and interactions*, and 5) *consequences/engagement outcomes* (reproduced in Gibbs, 2002, p. 171). The resulting EFIs were then used to describe the quality of student engagement and engagement propensities in these instances. Finally, these were brought together and presented in a *Model of student engagement dynamics*.

Analyzing Student Engagement

To examine influences on Kumi's level of engagement, I first created a profile of her *Individual Engagement Propensity*. This propensity included her general attitudes toward learning English in a classroom setting. Using NVivo to code her *formative events* was informative, especially when looking at Kumi's expectations of herself and her classmates in relation to active engagement in

class activities.

Formative Events and Initial Engagement Propensity

Kumi's references to learning English help present her general view of language learning. In her second action log entry, for example, she wrote, "`I was full of much fear...a feeling of gloom entering the classroom. But...I made a little progress. Afresh, I've expected you to improve us`" (action log, 4/14). Kumi had high expectations of herself and assumed others had high expectations of her. These expectations contributed significantly to her emphasis on: 1) what others think of her and her English ability, noting "`I'm very poor at speaking English`" and was "`nervous...to show [my conversation] to the classmates`" (4/21); 2) her image of herself as a "`negative student`" who was often "`depressed`"; and 3) the teacher as a change agent: "`[I am expecting] you to improve us`" (4/14).

Kumi's enthusiasm for English-language study returned at the end of her freshman year when a friend told her that she intended to study abroad. Kumi noted, "`It came as a thunderbolt to me. Then, I reflected on my negative attitude....I think I could be more enthusiastic for learning English after the incident.`" The influence of peers on Kumi should not be underestimated. She notes, "`I little imagined other's words would have an influence on my idea and life.`" Thus, Kumi's individual engagement propensity can be described as depending greatly on positive influence from internal factors (*Courage*, "`I could get used to them;`" *Ability*, "`I can be active`") and external factors (*Teachers,* "`highly praised for doing well;`" *Peers*, "`it was a turning point for me`") that helped her feel she was reaching — or needed to reach — expectations.

Factor Interrelations, Adaptive Strategies, and Actions/Interactions

At the beginning of the course, Kumi displayed effort to regain interest in speaking English. Since her engagement level was dependent on her mood, peers, and activities — all closely related to her expectations — her strategies varied. By the third action log entry (class #3), Kumi indicated change, "I think you gradually made me relax" (4/17). The interrelation of factors, *Teacher* influencing *Courage* (T-C), is represented by Figure 1 (below). General movement in time in all figures is from left to right, though internal and external factor interrelations and individual and group propensities should not be seen as necessarily linear or the boundaries distinct.

Kumi placed the reason for her lessening anxiety directly on the teacher. My verbal comments, Kumi's comment, my subsequent written comments, and Kumi's reaction form two connected, *positive* feedback loops, *Teacher* influencing *Courage* influencing *Teacher* influencing *Courage* (displayed as T-C-T-C+).
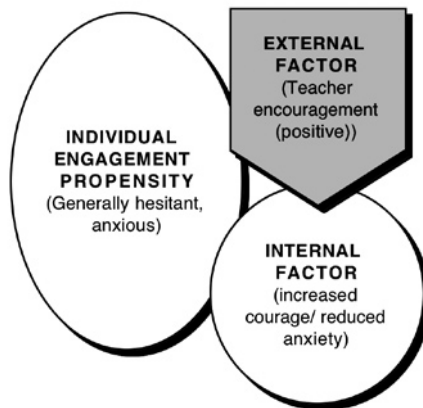

Figure 1: T-C positive interaction (time→)

Another example of the same relatively straightforward, linear-like structure of factor interactions, but with *negative* impact, involved *Materials* and *Courage* (M-C-). Kumi noted (4/17) that her reaction to a recording activity was unexpected, "In the end, my anxiety was in vain" (4/21). In this instance, her expectations of the recording activity were influencing her level of nervousness, and thus, her level of initial participation (see Figure 2, below).

By the fourth Fishbowl — an activity in which 4 students in a center "bowl" engage in conversation while others observe (see Cholewinski, 1999) — Kumi's comments indicated that the level of engagement of the class as a whole was important to her. Writing about the success of the class in general may have been a strategy to avoid negativism, since Kumi was aware that other participants were encouraging her to be positive. She noted, "it was really welcome that last fishbowl brought such a good result, though
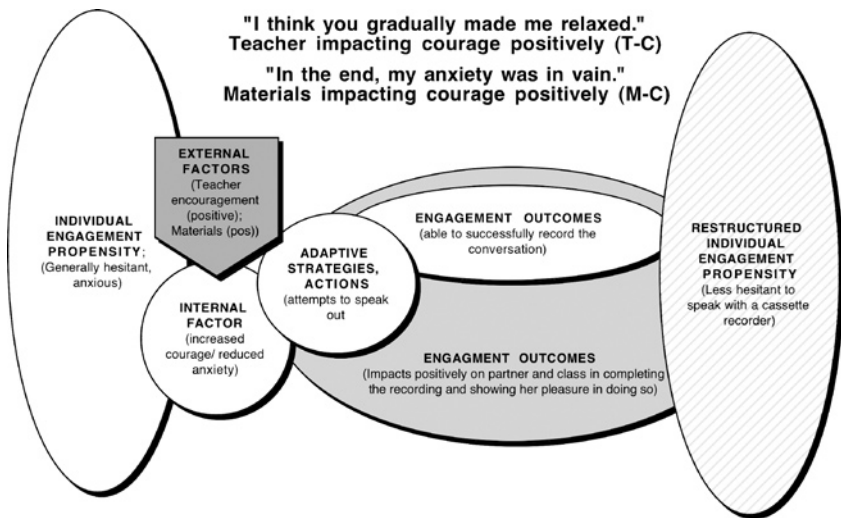

Figure 2: T-C, M-C positive interaction and resulting strategies, outcomes, and restructuring (time→)

`I couldn't do it`" (6/26). In contrast to earlier concern that she was not participating, causing her to feel "`very depressed`," this comment indicated that Kumi was attempting to be more positive, possibly to reach her perception of teacher and peer expectations. Consider the following action log entry: "`I was in a good temper. So I could talk...a lot....I think temper has a great effect on the works in class. But I have a day I can talk...actively and I don't feel like join the class`" (6/28).

Kumi described her lack of participation as dependent on her *Courage* and her success as dependent upon support of *Peers* and *Teacher* and the nature of the activities (*Materials*). It appears, however, that her participation was greatly dependent on her success in reaching expectations. That Kumi, in the quote above, thought there were days when she could be active, but she didn't "`feel like`" (6/28) joining the class, indicates powerful influences on her engagement related to "more personal things" (Interview) that she perceived as limiting her success in performing to her expectation. Kumi later reported that she "had a problem in [her] life so [she] couldn't join [the Fishbowl]. And the incident made [her] more depressed, so [a] very big [influence]" (Interview). In retrospect, it appears that although Kumi's problem was "in her life" (*Other people*), she may have benefited from specific feedback or counseling to help realign her expectations (*Ability*), alleviating some of the pressure of an *Other people/Ability* negative feedback loop.

Engagement outcomes and restructured engagement propensities

Although Figure 2 (above) indicates that Kumi's engagement propensity in the recording activity was altered by her experience, there was no evidence at the time that the adjusted propensity applied to other activities. Kumi was able to record subsequent conversations with less nervousness, due in large part to her

having experienced recording and realigning her expectations. Speaking into a cassette recorder, however, is not the same as speaking in front of an entire class. In the first Fishbowl activity, she laments that she "`couldn't go into the fishbowl....I couldn't take courage this time. I feel sorry`" (4/26). This interaction, showing negative effects of 2 external factors, *Materials* and *Peers*, on a single internal factor, *Courage*, is displayed in Figure 3 (below).

The various modes of feedback on Kumi's initial recording experience, such as encouragement and realigning expectations from the *Teacher* and *Peers* and her own awareness of the activity (*Materials*), made subsequent recording easier: "`In spite of having tape recording activity today, I didn't feel nervous this morning. I think I could get used to it already`" (5/7). Without feedback to compare with her expectations, Kumi may have retained a debilitating propensity to nervousness when recording.

"I couldn't take courage this time. I feel sorry"
Materials, Peers impacting courage negatively (M,P-C)

EXTERNAL FACTOR
(Fishbowl (negative); Peers (negative))

INDIVIDUAL ENGAGEMENT PROPENSITY
(Increasingly confident, less anxious)

INTERNAL FACTOR
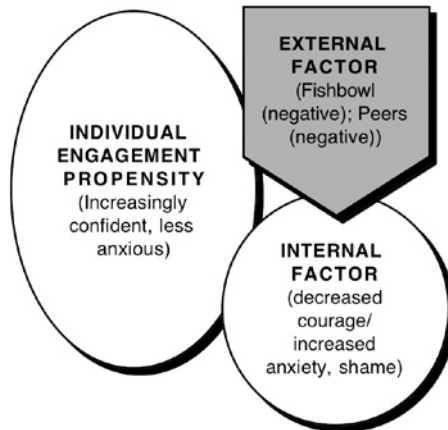(decreased courage/ increased anxiety, shame)

Figure 3: M,P-C negative interaction (time→)

Displaying this dynamic, emergent phenomenon in a static model is impossible. Even at this limited level of interaction, the complexity of interrelationships between engagement factors and engagement propensities is apparent. Nevertheless, I offer a highly simplified model of this event in Figure 4 (below).

Assuming Kumi's engagement propensity for recording had restructured, she began the videoing activity with a "less hesitant, less anxious" propensity. As the activity and Kumi's *Peers* positively influenced her *Courage*, *Beliefs* and *Ability*, she did not become nervous and was able to video successfully. Feedback from *Materials*, *Peers*, and *Teacher* has realigned her expectations and her subsequent success becomes a positive influence on her recording partner and the class as a whole. From this feedback, Kumi's engagement propensity for recording has restructured, allowing her to accomplish the task more
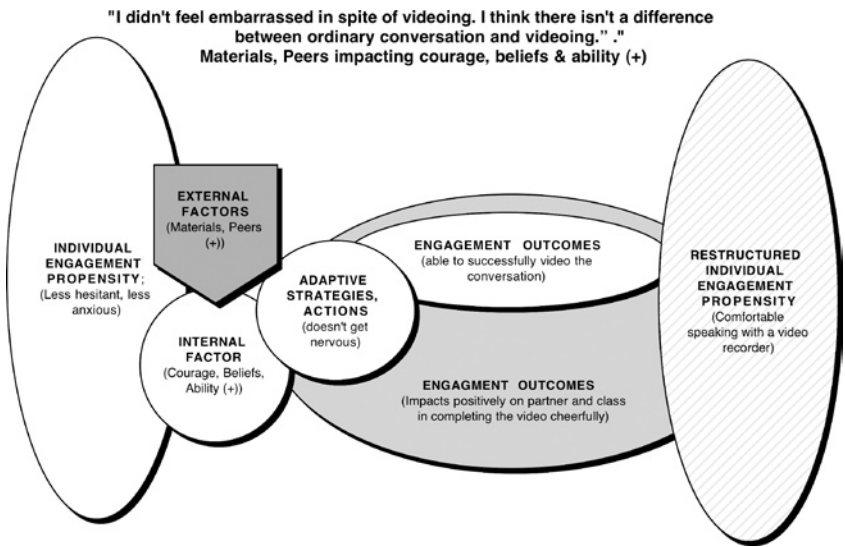

Figure 4: M-C, M-B, P-C, P-B positive interaction and resulting strategies, outcomes, and restructuring (time→)

comfortably, and this restructuring in turn has influenced the class propensity as well.

Kumi's refers to a peer influence in her fifth action log entry (week 2). She noted that Eriko "said to me, 'I think your English has improved.' I was very happy to hear that" (5/26). Since Kumi was experienced with recording by this time, and receiving such praise, her comment that her "uneasy feeling is getting clear day by day" (5/26) might indicate that her propensity had restructured to support greater participation in all class activities. In the next Fishbowl activity (week 8), however, Kumi did not enter. She noted, "I can't take courage without holding myself in readiness for fishbowl" (6/5). Though Kumi did not enter, she supported its use: "Fish bowl makes me nervous, but plays an important role in English study. Also it makes me
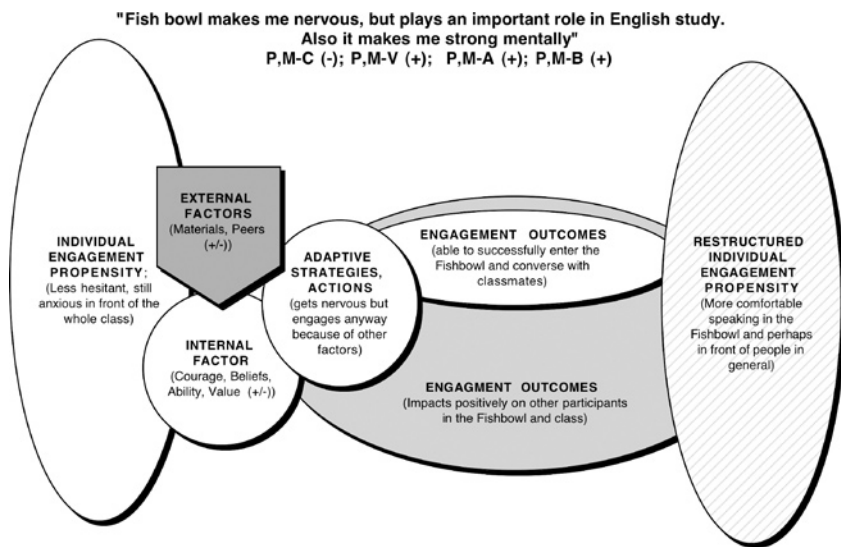

Figure 5: P,M-C, P,M-V, P,M-A, P,M-B positive and negative interaction and resulting strategies, outcomes, and restructuring (time→)

strong mentally" (5/22). A model of this comment above is provided in Figure 5 (below):

To elaborate, Kumi began the class (5/22, week 5) with a general propensity to be less hesitant in activities except the Fishbowl, where the impact of perceived expectations was so strong that she avoided participating. The Fishbowl put her in a situation where *Materials* and *Peers* had such a powerful impact on her *Courage, Beliefs, Ability,* and *Value* that she could not participate. The external factors, Fishbowl and classmates, resulted in Kumi's increased nervousness, but she believed strongly that the activity was valuable for increasing her language skills even though it made her nervous.

Final restructured engagement propensity

At the beginning of the course, Kumi firmly believed — and continued to believe — that her English ability was inferior to many of her classmates:

> Around me there are many active students....I always compared myself with them so doing that I was very depressed always. I have to make more confident and make more effort....They are friends who engage me to be active but on the other hand they are a burden. It's a bad view but... (Interview)

From the beginning of the course, Kumi kept her expectations unrealistically high, comparing herself to the most fluent and active students in the class. When not comparing herself to others, Kumi's self-evaluations tended to be more positive. She noted that in the second cassette recording she "was a little nervous, still nervous, but compared to the first...it was clearly less" (Interview). Her decrease in nervousness was accompanied by what she described as "the biggest change for me."

Accurately predicting how Kumi would engage in future classes would be

impossible, but I believe that classes employing such a feedback system would help Kumi, her classmates, and teacher to realign expectations. This is not to say that Kumi would always be able to engage in the most demanding of activities, nor that this should be a goal, but that an increased awareness through feedback of the nature of student engagement factors and propensities, how to influence them, and one's role in the classroom can create a more effective learning system.

A Model of Student Engagement Dynamics

Of course, there is no unifying model that can be applied in all contexts to all aspects of engagement dynamics. Furthermore, since classrooms are non-linear systems (Mallows, 2002), modeling engagement patterns presents significant difficulties. Thus, a *Model of student engagement dynamics* is presented below (Figure 6) as a point of departure for increasing educators' awareness of classroom engagement dynamics and for future exploration of the complexity of student engagement.

Moving from left to right, *causal conditions/formative events* contribute to individual engagement propensities, which contribute to the *group engagement propensity*. Since moment class starts interactions cause propensities to restructure, the stasis point is of little interest except in providing a starting point, *initial engagement propensities*.

For every individual in a learning system other participants are potential positive and negative external factors. Thus, individuals' internal factors can become external factors for others. Even so, external factors are displayed as catalysts (*input, feedback*) influencing internal factors that result in individuals employing *adaptive strategies*, *acting*, and *interacting*. *Feedback*, whether immediate or delayed, oral or written, stimulates interaction of engagement factors leading to individuals applying adaptive strategies. Using these adaptive strategies
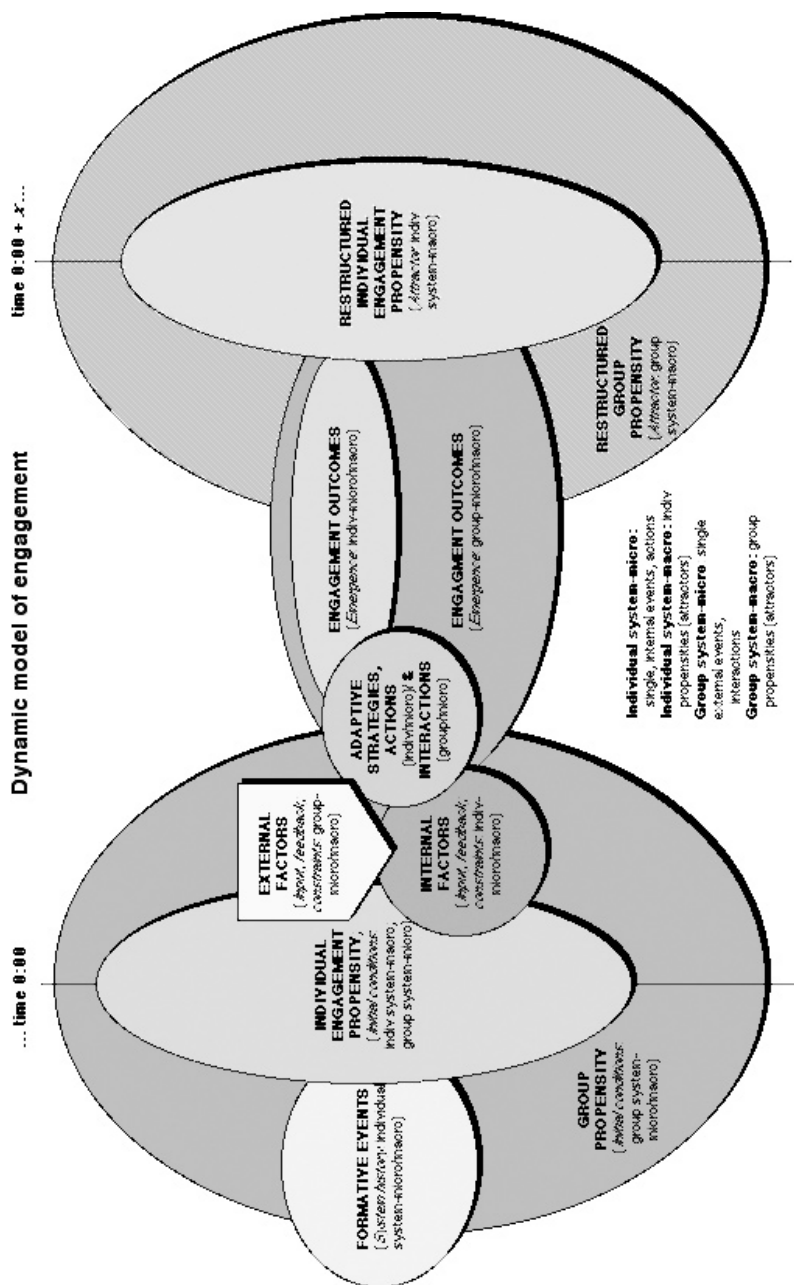
Figure 6: Model of student engagement dynamics (time→)

results in actions that lead to *individual engagement outcomes*. These individual outcomes interact and combine in *group engagement outcomes* that in turn influence *restructuring* of individual and group engagement propensities.

Admitting that perceived group propensities are based on intuition and experience is an important step toward understanding the nature of interactions in learning systems. Before entering the classroom, participants can only rely on assumptions based on experience. At time 0:00, participants enter with real propensities and *input/feedback* leads to *adapting*, *acting*, and *interacting*, which result in *outcomes*. This process influences engagement propensities, both real and perceived, causing them to restructure.

Implications for Practice

This report does not present solutions for eliminating student reticence or motivational issues. It does present, however, a more complete understanding of the interrelation between engagement factors and their impact on engagement propensities. Increasing our awareness of these engagement factors, factor interrelations, and ever-restructuring engagement propensities is important in allowing courses to evolve and, ultimately, in designing programs. The description and analysis of those factors influencing a particular engagement system and some analysis of how they interrelate longitudinally does not predict, or argue that some day it will be possible to predict, which factors or propensities will lead to certain behaviors, but shows how those propensities are effected by particular events.

Though educators are charged with creating an environment that will be conducive to learning, there are innumerable factors beyond the control of the teacher and the influence of classroom events. These factors can influence the class non-linearly, a seemingly trivial event for one student somehow influencing the experience of the whole class, possibly for the whole course. That Kumi

was experiencing mood swings that clearly impacted her engagement was due in large part to personal issues outside the classroom and her overly ambitious expectations. I believe that systemic feedback helped Kumi to try to be positive, to make an effort, and to influence others in creating a positive mood in the classroom. Though these successes are promising, it is less clear that restructured engagement propensities supported Kumi's expectations of herself as an adequate language learner and English speaker.

Considering the illustration above — and many more from the action logs that I am unable to include in this report — it would appear that when educators develop an awareness of class/individual engagement propensities they become keenly reactive to classroom events rather than remaining prescriptive, which is often done in the hopes of keeping control. Educators who accept that they are unable to control students' internal engagement factors and many external engagement factors as well, and can concentrate on adjusting external factors *in the hopes of* guiding the system in a positive direction. In short, it is *not* necessary that educators know everything that is going to happen in the classroom in advance since the unpredictability of events in a complex, dynamic system like the classroom is natural.

Because classroom dynamics are incredibly complex, there will never be a best or right way to teach or learn and, thus, there will be times when participants' expectations are misaligned. Since we are also aware that students interpret expectations differently, procedures for realigning expectations are crucial. I propose that students who are involved in the realignment process often become more comfortable with the learning process as well.

Conclusion

Educators should not only incorporate feedback into the pedagogic process, but also reexamine how we perceive feedback. Often feedback is perceived as being

linear and formal, which affects, for example, the teacher's choice of activity or topic. This perception appears to concern only feedback that is observable and has a distinct cause and effect. Though input/feedback in Kumi's engagement was at times observable and tractable, the majority was unobservable and dependent on multiple factors, which quickly became too complex to describe. Educators need to be aware that there is a great amount of interaction and feedback that affects the system but is not observable. Considering the *Model of student engagement dynamics*, I promote a view of engagement dynamics that begins with a perception of group engagement propensities based on experience and intuition that subsequently responds to qualitative feedback from individual interactions and remains open to constant restructuring of engagement propensities.

Appendix 1
Example Action Log Entry

Note: Numerical evaluations are on a 6-point scale, 1 (least) to 6 (most). Ideal for "Interesting" and "Useful" is 6. A score of four is ideal for "Challenging."

*Kumi, April 21 (Fri)

Activities	Interesting	Useful	Challenging
"Hobbies" practice	5	6	3
"Hobbies" recording	6	6	2
Intro to transcription, p. 5	4	4	3

Comments

I think that you gradually make me relaxed! Honestly speaking, I didn't want to attend today's class because of tape recording. As I said, I'm very poor at speaking English and tape recording. In Mr. [Name's] homework, we did this work. But it was only pain for me. Besides, I thought we would record my and my partner's conversation in front of the rest of the students. I mean, I thought we had to show it to the classmates. That's why I was too nervous and practiced conversation again and again last night and this morning. In the end, my anxiety was in vain! On the contrary, I could enjoy it and I'm looking forward to transcribing our conversation.

Recollecting myself last year, I was nervous throughout the year. I couldn't completely getting used to Mr. [Name's] class. I shed tears before Mr. [Name] many times because of anxiety for my English ability. I did nothing but think of leave [this university]! I guess I was a burdensome student for Mr. [Name]. But this year I'm sure I can be positive toward studying English. Now I hope I can abandon all anxiety and shyness as soon as possible. I'm due to make great progress, I believe! Also, I want to be a student who feel excited in entering [the] classroom.

Appendix 2

Exemplary engagement factor intersections

	1. Materials	*2. Peers*	*3. Learning environment*	*4. Teacher*	*5. Greater context*	*6. Other people*
1. Beliefs	[the card] is a really good idea, and I love it!!	[My happiness] comes all from everyone's positive attitude toward the class, I believe.	I believe this class will help me.	You have lots of ideas to make our class active.	Level-up [at night school] itself is very pleasant thing for me.	During long holidays, I didn't speak English among Japanese friends!
2. Courage	In Fishbowl, we should be bold, I think.	I thought the net which connected to the classmates gave me courage.	Maybe my nervousness made unease atmosphere.	You often give me courage, thank you!	even if I have never been abroad, I can be a good English speaker.	as my sister can speak English very well, I might hide behind her.
3. Interest	And today's example was interesting.	It was interesting since my partners have different jobs	I was glad that I had an outside class.	Your Language Learning History was interesting.	I've been dreaming to study abroad, and I took TOEFL the other day.	I want to learn it because I have many Asian friends who speak Tamil.
4. Value	I believe discussing about English learning is useful	According to her story, it was very helpful and wonderful experience.	I think this time was helpful for me.	thank you for…helping us to study English.	I realized everyone wants to go abroad or study abroad.	Watching the "Dreams" example was really useful.
5. Sense of agency	Thinking our class plan by ourselves was difficult.	Planning our class by ourselves is so interesting!	I need to choose nice clothes and wear make up well	But your advice [to choose partners] was very useful.	we can choose freely another favorite question from many choices	I'll tell my mum and get some advice to use [money] well.
6. Ability	videoing always give me a chance to improve my English.	my partner helped me a lot.	In this class, I want to improve my speaking and listening ability more.	Your words made me notice that my English has been improved.	Since I completely hadn't prepared for [the TOEFL], I knew I would be poor.	we will get more relationship if we understand the language.

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