

Extending Learning Opportunities: Diverging from the IRF to Promote Collaborative Pedagogy

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ABSTRACT

The *IRF/RE* (initiation-response-feedback/initiation-response-evaluation) is a well-known pedagogical device to control participation structures in instructional settings; however, teachers interested in promoting students' autonomy distance themselves from overusing this device. One of the main reasons is that students in the *IRF* oriented interactions are, in principle, "invited to participate . . . , but they are not authorized to question what they are accomplishing or why" (Kinging, 2002, p. 255). In spite of such a serious drawback, many teachers still stay unconscious about how they heavily rely on the *IRF* in their classrooms. This paper reviews studies that have explored teachers' efforts to break the *IRF* sequence. By so doing the author illustrates how teachers' conscious shift from authoritative discourse successfully promoted *collaborative pedagogy* and increased students' learning opportunities.

Teacher-Centered Discourse, the *Initiation-Response-Feedback (IRF)*

Education is conventionally considered as "the process of receiving or giving systematic instruction" (Oxford English-English dictionary). To promote this process, teachers make various decisions, such as what is valuable to teach, what is valuable to know, or, who should talk when. In particular, teachers' control of instructional sequence known as IRF—teacher initiation-student response-teacher feedback— (Sinclair & Coulthard, 1975), also known as the IRE—E as teacher evaluation (Mehan, 1979) is considered as a strong device to create classroom environments. The following extract is a typical IRF sequence described by Cazden (2001), who worked closely with Mehan for preparing his book published in 1979. The author added the brackets to indicate the function of each turn.

T: When were you born, Prenda? [initiation]

P: San Diego. [response]

T: You were born in San Diego, all right. [feedback/evaluation] Can you come up and find San Diego on the map? [initiation]

P: (goes to the board and points) [response]

T: Right there okay. [feedback/evaluation] (Cazden, 2001, p. 30)

The IRF is widely regarded as a default pattern in western-type schooling (Mehan, 1979) reflecting "a cultural model of 'one speaker at a time and pairs of speakers in dialogue'" (Erickson, 1996, p.31). On the positive side, the IRF helps teachers to proceed through their

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classroom agenda smoothly because of its rigid and stable structure; information given by students can be quickly evaluated, incorrect answers can be immediately modified, and correct answers can be promptly reinforced by the teacher (Cazden, 2001). In other words, “The structure of the sequence allows the teacher to maintain the necessary control over the flow of information and advancement of the academic content” (O’Connor & Michaels, 1996, p. 96). Overall, teachers’ direct instruction in classroom is considered as “...necessary and appropriate and indeed unavoidable” (Edwards & Westgate, cited in O’Connor & Michaels, 1996, p. 96). In particular the IRF is considered effective “for form-focused instruction” (Lantolf & Thorne, 2006, p.275), such as checking homework answers.

On the negative side, it is well-known that students who are not familiar with the IRF, which reflects the value of traditional western pedagogy, may have disadvantages compared to others. For example, Phillips (1972) investigated interactions in classrooms and at home on an Indian reservation in the United States and identified that the typical dyadic participation structures in western schools did not usually exist in Indian communities, in which turn-taking is generally self-directed; anyone who wishes to speak can speak on their own will. Erickson and Mohatt (1982) further described that Caucasian teachers’ direct nomination of individual students frequently put them in “spotlight” (p. 150), which singled them out for scrutiny by both the teacher and other students as audience. Erickson et al., argued that non-Indian teachers’ lack of awareness of cultural differences in participation structures led them perceive some students’ speech as situationally inappropriate and therefore hindered their learning opportunities.

Another potentially negative outcome is that students may perceive knowledge as predetermined, non-negotiable, and something transmitted by authority (Kinginger, 2002; O’Connor & Michaels, 1996; van Lier, 2000). The IRF often implants the false belief that learning primarily involves the ability to “hit a target” or to give “the answer the teacher is waiting for” (O’Connor & Michaels, 1996, p. 95) since it functions like “assembly-line instruction” (Rogoff, Paradise, Arauz, Correa-Chávez, & Angelillo, 2003, p. 189), which breaks the complex learning processes into simple tasks of learning, like isolated blocks (Rogoff, et al., 2003). In sum, even though it has certain benefits, the IRF dominant classroom discourse seriously limits students’ autonomous knowledge construction processes (Cazden, 2001; van Lier, 2000).

Collaborative Pedagogy

Criticism against the IRF has come from various pedagogical viewpoints. In particular, sociocultural theories, which conceive learning as processes of learners’ participation in society (Vygotsky, 1978), have emphasized the necessity of a dynamic shift of classroom interactions from teacher-centered to student-centered. The theories view that initial learning appears on the social plane, as learners are actively involved in an interpsychological meaning construction as a social being (Vygotsky, 1978). At a later stage of learning, intrapsychological meaning construction, or learners’ active involvement in meaning transformation in their own mind, is required. Novices internalize the shared understanding formulated through collaborative intermental dialogues and reconstruct the message in their own mind to achieve functional and structural transformation of their knowledge. In other words, “participants build on each other’s ideas to jointly construct a new understanding that none of the participants had prior to the encounter (Sawyer, 2006, pp. 190-191).

Lave and Wenger (1991) also argued that learning is essentially social practice, therefore

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participation, or being involved in the social world, is the core of learning. Children's learning starts from peripheral participation, which is "an opening, a way of gaining access to sources for understanding through growing involvement" to eventually "full participation" (p.37) in their social communities. Learning is therefore, "an evolving form of membership" (p.53), and through learning, children construct their new identities and create a new relation not only to the specific problem but also to their social communities.

In essence, socioculturalists view that it is groups, not individuals, that actively generate learning and knowledge (Rogoff, 1998, Sawyer, 2006). However, learning progresses by participating not merely in collaborative activities but in the activities that demand students to apply their resources to solve the problem with its level of difficulty slightly beyond students' current level of capabilities (Rogoff, 1990), or "Zone of proximal development" (ZDP) (Vygotsky, 1978). Only on the condition that the difficulty level is appropriate for students, joint interactions can function as the key to enhance students' cognitive development. Therefore, teachers' capability, which is to catch the zone and to adjust the level of challenges needed to solve the problem, is crucial in order to promote collaborative learning.

Attempts to Break the IRF

One way to provide students chances to learn through different channels—not merely through dyadic "ping-pong match" (Erickson, 1996, p. 33), but also simultaneous and mutual interactions—is to construct a learning community, in which students are encouraged to share their opinions with each other and to actively evaluate arguments raised by other students (Cobb & McClairn, 2006; Hale, 2011; O'Connor & Michaels, 1996; Verplaetse, 2000). In such communities, the teachers' role is not to dominate the classroom nor directly evaluate individual students, but to encourage the students' active participation in examining solutions and various ideas.

O'Connor and Michaels (1996) illustrated such a teacher's role. With occasional revoicing, or "a particular kind of neutering (oral or written) of a student's contribution-by another participant in the discussion" (p. 71), a teacher effectively guided a group discussion on how a balance scale tips when weight are attached in third and fourth grade science classes. Notable aspect is that in the third turn, the teacher often rather non-evaluatively reuttered the students' opinions by including a change in the content and by using particular language to frame those opinions into the larger unit of the ongoing discussion. For instance, some of these framing expressions were, "okay, so you're suggesting since this is further out...", or "kay so you're gonna predict it balances... lemme see if I got right what your theory is. Jane says it's not -- it's gonna ..." (p. 79). By such utterances, the teacher gave the students a credit for their contributions and a certain role (e.g., a thinker, originator of an idea, hypothesis maker) with respect to the content and function of their opinions. O'Connor and Michaels further analyzed the teacher's frequent use of reporting speech (e.g., Jane says...), and proposed that the speech supported the fusing of multiple points of view and effectively induced the students to participate in a collaborative discourse community. Another frequently used term, "so", also encouraged other participants to wait for the addressee's response, created a new slot, and enhanced active discussions.

Research has shown that teachers' utterance given in the third part of the IRF is a crucial factor to lead their classroom environments. Nassaji and Wells (2000), for example, described that in the third turn, teachers' encouragements on students' further elaboration on their initial responses, comments to other students' opinions, as well as suggestions of new topics for discussions, created students' active interactions with each other. Verplaetse (2000)

pointed out that teachers' appreciation of students' responses regardless of their correctness is a prominent contribution they can make to facilitate the whole class learning

Waring (2008) also examined the function of feedback appearing in the third turn in the IRF, in particular, *explicit positive assessment* (EPA) such as "very good," "good," or "excellent," in her ESL classroom. She argued that students' incorrect answers can naturally create "access points for learner participation", but correct answers tend to "automatically trigger the positive assessments that seal the case" (p. 590) without teachers' conscious treatment. Namely, students take EPA as a teacher's sign to declare that their responses are no more necessary and warranted. Therefore, she argued that not the IRF itself, "but a designed consequence of specific interactional practices" (p.590) impoverished learning opportunities. In order to avoid such a consequence, like Verplaetse stated above, she recommended equal treatment of correct and incorrect answers, that is, responding both of them with same degree of interest and sensitivity. For example, by asking "Why do you think so?" to a student giving a correct answer, teachers can create a collaborative learning space with the student to make subsequent contributions by revealing his/her rationale, and with the whole class to share the rationale. All of the above studies showed the value of teachers' consciousness about how they can invite students to make subsequent contributions and actively participate in the ongoing interactions (Hall, 2000).

Another important role of teachers to break the IRF sequence is that their gradual "fade-out" (Brown & Ferrara, 1985) from classroom interactions. Sociocultural theories maintain that experts transfer their authority and responsibility to novices as the task unfolds. In order for the successful transfer, Lantolf and Thorne (2006) state that "graduation and contingency" is necessary (p. 277). Teachers' assistance should be decreased upon students' demonstrating their mastery of capacity needed for independent problem-solving. However, experts' minimum level of support is crucial for novices to successfully perform the task. In other words, their needs are not static but fluid and continue to change with their developmental capabilities. Therefore, teachers' assistance, in its nature, should be contingent "and entails continuous assessment of the learner's ZPD and subsequent *tailoring of help*" (p. 277) to meet such changing demands. By so doing, teachers can push students' autonomous participation in their negotiation of meaning.

Hale (2011) illustrated the effect of a teacher's conscious shift from the IRF and his "fade-out" from a traditional teacher's role during a discussion in his ESL classroom. The discussion started from the teacher's appeal to invite students "to self-select and respond to the question," (p. 5) whether their country was excessively conscious about recycling. One answer, they recycle food, made by a Korean student (KS) with limited fluency of English, triggered the whole-class pursuit of the actual meaning that KS wanted to convey. During the discussion continuing for more than 100 turns, students frequently self-selected their turns and jumped into the teacher-KS interactions, which should have been basically dyadic, had the teacher's fine-tuned prompts or his fading out from the traditional teacher's role not provided. For instance, without his open-question to the class, "Does that sound overly concerned?" (p. 6), in response to the information that in Korea if people do not properly separate foods into recyclable or not, they will be fined, or, his refraining from immediate clarification of KS's answer that they recycle food for farm animals, the discussion could not have evolved into the whole class meaning creation.

The studies above all show teachers' various strategies (e.g., constructing collective organization of attention, revoicing students' opinions, aligning them with each other as a contributor given a particular role, withdrawing from acting an authoritative figure) and their conscious efforts to promote collaborative learning opportunities in the context of western pedagogy, which is fundamentally more individual-oriented than group-oriented (Doi, 1971, 1988; Marks & Kitayama, 1991). The following section will describe how teachers in Japan,

in the different sociocultural context, facilitate multiple-party participation structures in schools.

Sustaining Multiple-party Discourse in Japan

An important issue commonly pointed out by the researchers studying Japanese classroom interactions (e.g., Anderson, 1995; Cook, 1999; Hatano & Wertch, 2001; Inagaki, Morita, & Hatano, 1999; Rogoff & Toma, 1997) is a possible influence of teachers' indigenous "folk pedagogies" (Inagaki, et al., 1999, p.108) that regard knowledge "as something that must be constructed by the child rather than as a set of facts and skills that can be imparted by the teacher" (Stevenson & Stigler, cited in Inagaki, et al., 1999, p.109) manifested in classroom interactions (Jonson, 1993; Lewis, 1995; Tobin, Hsueh, & Karasawa, 2009; Tobin, Wu & Davidson, 1989). For example, in a cross-national study of Japan and United States, Inagaki et al. (1999) analyzed the IRF pattern in Japanese and American fifth grade classrooms of mathematics and identified that in Japan, the IRF occurred more than three times less frequently than in US. However, the average of total class time used for the IRF interactions was almost the same. This indicates that in general, each IRF unit occurred in Japan was much longer and therefore more complex than that in America.

Inagaki et al. further reported that the functions of the third turn in the IRF were significantly different between the two nations. In Japan, more than half of the teachers' feedback was given to the whole class (59.4% of the total feedback), whereas in US, majority of the feedback was given to individuals (85.7% of the total feedback). Regarding evaluation, Japanese teachers seldom gave direct evaluation to the student's response. Rather, the Japanese teachers often invited other students to evaluate the response or gave evaluation indirectly, whereas the American teachers almost never used such approaches. From these results, Inagaki et al. discussed that Japanese teachers tend to believe that without explicit teaching or indirectly through collaborative classroom discourse, students can learn valuable mathematical knowledge.

Anderson (1995) provided a good example of the above claim. By observing first and second grade elementary school classrooms, he described how the teacher guided multi-party discourse in the class of social studies. The teacher seldom elicited students' replies; instead, she orchestrated a kind of collaborative answer constructed through the process of active interactions among students, who frequently called out answers without being nominated.

(1) [from Anderson, 1995: example 6.7. First grade calssroom.]

Teacher: *kikai o omoidashite kudasai, kikai. kotchi muite. nante iu kikai yatta ka na.* [Try and remember the machine, the machine. Look this way. What was the machine called?]

Student 1: *yuubin posuto...* [Postal...]

Student 2: *yomitori nantoka.* [yomitori something.]

Student 3: *yomitoriki.* [Reading machine.]

Teacher: *yomitoriki. chikai ne.* [yomitoriki. That's close.]

Student 4: *yomitoriki.* [Reading machine.]

Teacher: *sono mae ni nantoka...*[Before that, something...]

Student 5: *yuubin.* [Postal.]

Student 6: *Jidoo.* [Automatic.]

Teacher: *Jidoo?* [Automatic?]

Student 6: *senbetsuki.* [Sorting machine.]

Teacher: *soo, ne. ne. Jidoosenbetsuki.* [That's right, a *Jidoosenbetsuk* (an automatic sorting machine)].

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Teacher: moo hitotsu, koo, pipipi tte yuubinbango o koo yatte...[There's another one, the one that goes *pipipipi* with the postal codes.]

Student 7: yuubinbango yomitorikubunki. [-Machin for reading and sorting according to postal codes.] (p. 180.)

In this extract the teacher's revoicing was rather simple. She mostly repeated the student's previous utterances, with a veiled hint to imply what everyone should do to reach the answer. The students were collaboratively trained to listen to the teacher attentively in order to read such subtle expressions, and they constructed the correct word relying on each other's contributions.

(2) [from Anderson, 1995: example 7.3. Second grade classroom.]

10 Teacher: sono shita, nan deshoo ka. [Below that in the photo below, what is it?]

11 Students: hai! [yes!]

12 Student 1: sensei, kore, nan te ieba, ieba ii tcharoo ka. [Teacher, this, what do you, what do you call it?]

13 Teacher: hai, u, muzukashii. yasui-kun. [oh yeah, hmm, that's a hard one. Yasui-kun]

14 Yasui: (stands) okujoo desu. [it is the rooftop.]

15 Student 2: ii desu! [Good!]

16 Student 3: yasui-kun ni tsukekuwaemasu! [I have something to add to Yasui-kun!]

17 Student 4: yasui-kun ni tsukekuwaemasu! [I have something to add to Yasui-kun!]

18 Teacher: hai, jaa, ushida-kun. [Okay, let's see Ushida-kun.]

19 Ushida: okujoo no asobu tokoro desu. [It is the rooftop play area.]

20 Student 5: chigaimasu! [I have something different.]

21 Student 6: chotto chigaimasu! sensei...[I have something a little different. Teacher...]
(p.209)

In this extract, Anderson categorized *ii desu* in turn 15, *tsukekuwaemasu* in turn 16 and 17, and *chigaimasu* in turn 20 and 21 as a students' response formula, which he considered a part of formulaic expressions that Japanese actively use in their conversations (Clancy, 1986). *Ii desu* is a primary tool to show students' acknowledgement to the presenter's viewpoints. In the case of *tsukekuwaemasu*, in addition to this function, students can expand the scope of the classmate's answers by adding more details. In the case of *chigaimasu*, they can express different perspectives without saying "no" to the presenter, but again while acknowledging the value of his or her opinion. Based on the longitudinal qualitative data, Anderson reported that these three formulas had been actively taught by the teacher, "as a tool for classroom consensus building" and "as a medium through which students acquire the style of collaborative decision making"(p. 221), both of which are cornerstones of Japanese public interactions.

In general, sustaining multi-party discourse is known to be rather difficult for young students because of their unfamiliarity of the discourse—for lack of experiences and unavailability of useful device or skills (Crook, 1994). Considering this fact—especially upon reflecting the risk students in the above extract had when they actively self selected their turns with the purpose of disagreeing or adding their opinions to the previous turns—the value of mastering the response formulas becomes apparent. Without giving personal and individualized expressions, their turns are appropriately conveyed to and responded by others because the formulas artfully codified the contexts of the students' intentions and thereby maintained the important Japanese cultural norm, harmony (Doi, 1971, 1988; White, 1987).

Building upon Anderson's study, Cook (1999) analyzed the role of listeners in third and fourth grade Japanese elementary school classrooms. She reported that students were often

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encouraged to carefully listen to one another by teachers (e.g., "*Hai. Fukushima-san no yutta koto kikoemahsita kaa. Akabane-kun kikoeta:? Kikoeta tte yuu ka, kiite ita? Suzuki-kun daijoo bu?*" 'OK. Did you hear what Fukushima-san said? Did you hear it, Akabane-kun? Rather than hearing it, did [you] listen to it? Are you OK, Suzuki-kun? ") (p. 1459). Unlike the IRF dominant interactions, in which students mainly listen and reply to one teacher, in the multiple-party interactions they need to listen to the whole class and speak in relation to others. Like Inagaki et al. and Anderson, Cook's study also suggested that teachers' main role is not to give direct evaluation to students, but to encourage them to be capable evaluators as well as supporters of individual student's response. In order to meet this goal, the teachers actively reminded the students of the value of attentive listening necessary for better grasping their peers' utterances.

CONCLUSION

In this paper, the author described the value of breaking the IRF and promoting collaborative learning environments. She has discussed that the IRF generally limits students' learning opportunities because of its dyadic participation structures, and presented collaborative pedagogy as its antithesis. She has also addressed teachers' various attempts to break the IRF in the western pedagogical context, and then focused on Japan to explore how Japanese folk pedagogies are possibly reflected in teachers' efforts to sustain multi-party interactions.

The primary aim of this paper is to raise awareness of teachers of various fields, regarding the risk of the heavy dependence of IRF in their classrooms. The author therefore kept the scope of the studies described in this paper rather wide; their research participants ranged from elementary schools to universities. Moreover, class subjects also differed. By so doing, she believes that this paper can provide insights that are otherwise not available. However, it is also true that more specific information will be gained by examining classroom interactions occurring in a more limited scope context. For example, how teachers' strategies will be different or same when teaching classes of different subjects, such as sociology and English.

Promoting multi-party discourse is an inevitable shift in any types of classrooms. The discourse provides rich opportunities with students to value various voices—not only others' but also their own—by actively giving acknowledgements, evaluations, agreements, or disagreements to each other. They will experience that their opinions contribute to the larger discourse in which the whole class pursues the answer with the teacher as a pilot. There, knowledge is not given by the authority. It is the co-constructed achievement by the learners themselves.

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