In-the-Moment Feedback and Coaching: Improving R2C2 for a New Context

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ABSTRACT

Background The R2C2, a 4-phase feedback and coaching model, builds relationships, explores reactions, determines content and coaches for change, and facilitates formal feedback conversations between clinical supervisors/preceptors and residents. Formal discussions about performance are typically based on collated information from daily encounter sheets, objective structured clinical examinations, multisource feedback, and other data. This model has not been studied in settings where brief feedback and coaching conversations occur immediately after a specific clinical experience.

Objective We explored how supervisors adapt the R2C2 model for in-the-moment feedback and coaching and developed a guide for its use in this context.

Methods Eleven purposefully selected supervisors were interviewed in 2018 to explore where they used the R2C2 model, how they adapted it for in-the-moment conversations, and phrases used corresponding to each phase that could guide design of a new R2C2 in-the-moment model.

Results Participants readily adapted the model to varied feedback situations; each of the 4 phases were relevant for conversations. Phase-specific phrases that could enable effective coaching conversations in a limited amount of time were identified. Data facilitated a revision of the original R2C2 model for in-the-moment feedback and coaching conversations and design of an accompanying trifold brochure to enable its effective use.

Conclusions The R2C2 in-the-moment model offers a systematic approach to feedback and coaching that builds on the original model, yet addresses time constraints and the need for an iterative conversation between the reaction and content phases. The model enables supervisors to coach and co-create an action plan with residents to improve performance.

Introduction

There is growing evidence that effective coaching improves hands-on skills in the operating room, nontechnical skills such as patient communication, leadership and teamwork, and physician well-being in residency.[1–6] Since residents may reject feedback that conflicts with their self-assessments due to a perceived lack of credibility or lack clarity on how to use it, coaching techniques can enable supervisors (ie, clinical supervisors or preceptors) and residents to collaboratively reflect on performance, focus on growth and development, and embrace performance gaps as catalysts for learning.[7–10]

The R2C2 resident formal model[3,4,11,12] was developed to facilitate formal feedback and coaching conversations, enable collaborative discussions between supervisors and residents, and establish a safe environment through a series of open-ended questions that emphasize reflection and continual improvement. When the model is used effectively, the resulting feedback conversation can be a dynamic approach to developing competence where attention is paid to building relationships (R), exploring reactions (R), exploring the content (C) of the feedback, and coaching for change (C), thereby enhancing feedback acceptance and use. This approach meets the contemporary conceptualization of feedback as "a dynamic and co-constructive interaction in the context of a safe and mutually respectful relationship for the purpose of challenging a learner's (and educator's) ways of thinking, acting, or being to support growth."[13(p653)] Faculty development in R2C2 has occurred through local, national, and international workshops, guided by trifold brochures along with demonstration videos and the development of a website.[14] The brochures list each of the 4 R2C2 phases with sample phrases aimed at specific target populations and contexts.

The R2C2 model has been applied in a variety of health care settings with practicing physicians, nurse practitioners, and residents.[3,4,11,12,15] Residents and supervisors indicated that the open-ended questions facilitated self-reflection, and action plans enabled the

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Editor's Note: The online version of this article contains interview protocols used in the study.

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dyad to co-create a concrete action plan that emphasized development and progress. Collectively, the research to date suggested that the R2C2 resident formal model can be used effectively for feedback and coaching with residents who are either excelling or struggling. However, the focus of research thus far has been on summative settings, where a variety of performance data are available for review from multiple points in time (eg, daily encounter forms, objective structured clinical examinations, multisource feedback), and participating supervisors questioned whether the model can also be adapted for in-the-moment feedback.[3,4,12]

The need for high-quality in-the-moment feedback is evident given research reports of performance improvement following immediate feedback, issues of recall post-feedback, and the association between depression and lack of timely and appropriate feedback.[16–19] It is of particular interest to those working in competency-based medical education (CBME) settings where learners are expected to meet milestones or complete entrustable professional activities (EPAs). CBME necessitates frequent feedback following direct observation of workplace-based performance with informal in-the-moment conversations at the end of a shift, clinic, or after a single patient encounter to focus on a specific skill or competence.[20] The R2C2 model highlights the importance of a credible relationship to optimize acceptance of feedback as well as leveraging that relationship to act as a coach for improvement, and it could be applicable to in-the-moment settings.

The purpose of this study was to explore how supervisors adapted the 4 phases of the R2C2 resident formal feedback and coaching model during informal in-the-moment conversations in the context of a brief clinical experience (eg, end of a clinic, shift, or operating room day; following observation of a learner). Specifically, we were interested in where supervisors used the model, how they adapted it for in-the-moment conversations, and specific phrases they used in each phase that could be incorporated into a new R2C2 in-the-moment trifold guide.

What was known and gap
Research suggests that the R2C2 model can be used effectively for feedback and coaching with residents who are either excelling or struggling, but research focus has been on summative settings, and there is a need for high-quality in-the-moment feedback.

What is new
A guide for using the R2C2 model for in-the-moment feedback based on interviews with supervisors using it in that context.

Limitations
A small number of interviews with supervisors were conducted and did not include resident perspectives.

Bottom line
The R2C2 in-the-moment model offers a systematic approach to feedback and coaching that builds on the original model, yet addresses time constraints and the need for an iterative conversation between the reaction and content phases.

Methods

Setting and Participants

All interviewees were physicians who supervised residents in clinical settings. Using purposeful sampling, we recruited and invited clinical supervisors/preceptors who were currently using R2C2 and had adapted it for in-the-moment feedback conversations with residents. We believed these physicians could provide the best perspectives on the components of the model, including approaches to provision of more immediate feedback. The supervisors consented and were provided with copies of the R2C2 resident formal trifold.[14]

The 11 interviewees included 2 pediatricians, 2 medical oncologists, and 1 anesthesiologist, geriatrician, gastroenterologist, general internal medicine specialist, physiatrist, family physician, and a critical care and palliative medicine physician. Two interviewees were from the United States, and the rest were Canadian; 4 were members of the research team. Interviewees described varied contexts in which they used R2C2 in-the-moment model, including while working longitudinally with residents over a week or a month, or for a single shift or a few shifts or in conjunction with a single activity (eg, discussing bad news, performing a technical procedure). Others used it for discussions when concerns arose such as complaints from patients or nurses. It was also used when documentation needed to be completed for daily encounter sheets, field notes, or EPA forms. Settings included outpatient clinics, operating rooms, and hospital inpatient units.

Intervention

One member of the research team (J.L.) conducted individual interviews with each participant using a semistructured interview protocol (provided as online supplemental material) based on the R2C2 resident formal trifold in November and December 2018. Interview questions addressed experiences and context using R2C2, participant suggestions for rewording of questions and prompts for each R2C2 phase, examples of how R2C2 was used, and other suggestions. Interviews were audio recorded and transcribed.

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Outcomes

We used a type of thematic analysis called framework analysis[21] to identify approaches to adapting and implementing R2C2 for in-the-moment feedback and key phrases that supervisors used within each phase. This approach was selected, as it provides a structure into which we could systematically reduce the data to analyze it by case and by code undergirded by the R2C2 structure.[21] We followed the sequential steps of framework analysis: familiarization, coding, framework development, indexing, charting, and interpretation. Transcribed interview data were first reviewed by the interviewer (J.L.) for accuracy. Two members of the research team (J.L. and J.S.) coded transcripts from the first 2 interviews and developed a thematic framework comprising 6 framework categories: (1) participant experiences and context for using R2C2; (2) language and strategies for potential inclusion into a new in-the-moment trifold; (3) suggestions for phrases to exclude from the original R2C2 resident formal trifold; (4) overall suggestions for better wording; (5) examples of how the model was applied; and (6) other suggestions. A research associate (R.L-K.) created a spreadsheet with the 6 framework categories to index data from the 11 interviews and interviewer memos; no additional framework categories were identified in the indexing process. This research associate then undertook charting, summarizing data within each framework category. Finally, summaries were confirmed by 2 team members (J.L. and J.S.).

Two 2-hour consensus meetings were held with research team members to interpret and discuss the charted data, with the goal being to agree on the strategies and phrases to create a new trifold for R2C2 in-the-moment feedback and coaching model in February 2019. Meetings were audio recorded. They were followed by several e-mail discussions and document edits to clarify and obtain agreement on the wording for the trifold as well as other ideas on translating the model into practice. Data from the first consensus meeting were transcribed and made available to the group prior to the second meeting, along with an initial draft of the trifold for the first 3 phases. At the second meeting, the fourth phase was discussed, refinements were made, and clinical applications of the proposed tool were discussed. All members of the research team participated in both meetings. A draft of the trifold was then reviewed by each member of the research team, and additional edits were made with general agreement of the revisions.

The research team consisted of PhDs and MDs with diverse clinical backgrounds and years of clinical work, representing 3 countries. Members included those who had developed the R2C2 resident formal model and those new to R2C2 research but experienced users of R2C2 in their clinical workplace. At each step of data collation and analysis, there was a review and discussion of the data.

Once the team felt that the R2C2 in-the-moment trifold was complete, it was sent to researchers involved in developing previous versions of R2C2 and all interviewees.[4,11] Minor suggestions were made, primarily confirming that the trifold was appropriate. These suggestions were reviewed by e-mail discussion; however, no additional changes were made.

The University of Calgary Conjoint Health Research Ethics Board approved the study.

Results

Supervisors were comfortable with the 4-phase approach to feedback and coaching provided by the R2C2 in-the-moment model and noted examples of phrases they used for each phase. These discussions were generally quite short (5 to 8 minutes) compared to the 30 to 60 minutes suggested for formal progress meeting sessions. Supervisors provided rich commentary on each R2C2 phase, outlined below. The TABLE provides exemplary quotes for each phase from the interviews.

Phase 1: Build Relationships

In this phase, supervisors recognized the importance of distinguishing among residents they had not previously worked with and those they had worked with as part of a longitudinal experience (eg, $\geq$ 1 week). For the former group, they were welcoming and queried past experiences, asked residents to identify goals, and made their approach to feedback clear. For those residents with whom they had a longitudinal relationship, supervisors asked about previous and current goals. They queried these aspects as a way of engaging residents in the upcoming clinical experience and the feedback that would occur. When residents could not identify goals, supervisors took a more proactive approach to suggest types of learning the setting could provide or particular patients that might help achieve a specific learning goal, address an EPA, or enable the completion of direct observation of a procedure form. The importance of relationships was recognized throughout the clinical experience, and specifically was addressed again at the end where supervisors would query learners' perspectives on the experience and coach them.

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TABLE
Supervisor Perspectives for Use of R2C2-in-the Moment Feedback and Coaching

Categories	Themes	Examples
Phase 1: Build relationships	New learner	"If I'm just starting out with a learner, it's always the best situation if a learner initiates that conversation and says, 'I'm here to get this out of my rotation or I'm only here for a day, a half day, and I'd really like to learn about X or Y or Z today.' That doesn't always happen—I think that's an ideal scenario. . .the things that I try to do very early the first time I meet with a learner before we dive right into clinical activities is kind of setting expectations for whether it's the day or the rotation that I'm working with them on, get an understanding of where they're at in their training. . .If they're a medical student, getting a sense of what fields of medicine they're interested in or if it's a resident, I generally know a little bit more about what their goals are. But not necessarily with an off-service resident." [Participant C]
	The learner with a pre-existing relationship	". . .yesterday I had one of the second years [resident] with me and so I was her academic advisor last year. I've worked with her a lot and so it might just be a matter of 'What have you been up to lately since you [we] last [met]?' Sort of just a little bit of that relationship. . . and just trying to figure out where they're at in their training, what their comfort level is with ped[iatric]s, if they have a specific goal." [Participant I]
Phase 2: Explore reactions and reflections	Understanding the reaction	"For me it's really because I want them to feel comfortable sharing this information, and it's the reaction area that's the hardest for them to share. Who wants to say they feel stupid, that they feel that they should have known that? They shouldn't have missed that. That's where I think they oftentimes feel like they're the only one who this has happened to or that's why I really like the affirm, normalize part that that's what I'm trying to do in their reaction. To say that the feelings are fine, the feelings are normal, the reaction is normal, and get them to open up because they feel like that reaction is not what they should have they won't open up after that." [Participant K] "I think this is a difficult stage because there's a big gap here. . .the clinical experience needs to occur between stage 1 and stage 2. . .once they've had that clinical experience, then I'm looking for them. . .in terms of those big exploring reactions and perceptions of the data, what we're doing, really, is exploring their presentation of the clinical experience, and so that is a source of data for me to then be able to explore the pieces that are working and aren't working." [Participant D]
Phase 3: Confirm content	Exploring content	". . .what's really important on the content portion is talking about observable behaviors that you have had over the last couple of days or over that single encounter and checking. This is where you really work to avoid inferences." [Participant A] "I usually ask them 2 questions: 'What one thing do you want to keep doing?, 'What one thing worked in this encounter that you want to keep doing?' . . .there are many things that they do well and it's not just on the things I want them to change, but on the things I want them to keep doing well." [Participant K] "Even if something has gone particularly well, I think ways to explore their understanding of how things went or what they would've done if things hadn't gone well is to say, 'Well, your laryngoscopy was very smooth there. What would you have done if you couldn't see the vocal cords?'. . .more extrapolation techniques to try to get them to show that they have a really good understanding of the topic or the next steps or anticipation. So there's some things that I would go about doing if I'm finding it difficult to explore the content of the topic that we're using." [Participant J]
	Confirming content	"...at the beginning of that next clinic, I said, 'Today, I'd like to watch you do that procedure again. And if it's okay with you, I'll give you some feedback in-the-moment now that you're aware that you do this.' So actually, at the time of the procedure, he was really receptive to receiving that right then and there correction on the... position. . .I got the patient's consent to take some video of just his hand positions while he's doing the injection. And I showed him the video afterwards from different angles to see—when he looked at it, he said, 'Oh, I didn't really think that I was doing that.' So I think that helped to improve his awareness. . .. Maybe the first time I watched him do it, he was saying, 'Well, that's just a matter of your opinion.' And having that more objective video data, he was like, 'Oh okay, I see what you're saying now.'" [Participant C]

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TABLE
Continued.

Categories	Themes	Examples
Phase 4: Coach for change and co-create an action plan	Continue relationship building as needed	"I think in terms of what you need to do, I think coming back [to] the beginning and coming back to understanding that rapport is really important. . .to understand what their goals are, where they're at in their training and what should normally be expected of a trainee at that level. They need to have this kind of frame of reference but you also need to have had the conversation with them of what's realistic to assess and what are their individual goals. . .if you don't have that already established, I think that can really affect your credibility as a coach because if you don't really understand that and there's a big gap between what you're saying and what they're thinking. They're just going to dismiss what you're saying and not trust you as someone credible." [Participant C]
	Need for specificity and commitment	". . .it's specificity. Like I think whatever you are talking about has to be very clear. . . Make it specific, very to the point, and you cannot give feedback on 20 things. You have to pick your battles. Like, if there's 1 or 2 things that you want to highlight, just talk about those 2." [Participant G] "Some learners are very engaged and they're very motivated and others aren't . . . if it's someone who's less motivated then they don't really have as many ideas, and it is hard to get engagement. I can sometimes get a sense at the end of it if they're going to really try to make these changes or if they're somewhat more reluctant to." [Participant B] "I don't want people to see a patient with congestive heart failure and their goal is to review congestive heart failure and will talk about it next time. I feel that's not helpful. . .I actually try and get residents to really key in on what the area was that was problematic. . . for example, 'Was their history adequate? Did they do an appropriate physical exam? Maybe their differential diagnosis was even okay, or maybe that's where the gap is, or maybe there are issues are around management.' . . .Rather than reading more generally. . .the expectation is that the beginning of next clinic, that we will be discussing the new knowledge that they've thought out around that particular issue, and discussing what the implications are for a particular patient. . . That occurs at the beginning of the next clinical day, before we then move into their next set of patients." [Participant D]
	Co-creation of action plans	"I've been experimenting a little bit. . .it would almost be helpful to me and I'm trying to put something together that's on like a carbon paper that has some of the steps with the phrases and then the coaching plan so that when we write that coaching plan out, I can hand that piece of paper off to that person. And then I have a copy of it and they have it sort of in their pocket as a reminder to focus on . . . It was clear that between the dyad there was an understanding on that paper. The external person couldn't make heads or tails of the chicken scratch but [for] the 2 people it represented a shared mental model and it was helpful to write it down." [Participant A] ". . .and usually in-the-moment feedback I do verbal commitment, less so than I tend not to do written. Commitment I'm doing the verbal." [Participant K]

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Phase 2: Explore Reactions and Reflections

Supervisors noted that feedback and coaching discussions in the R2C2 resident formal model used collated data included in formal assessment reports; while, for in-the-moment discussions, the supervisors drew on their own observations of residents as data. Supervisors sought residents' reactions to these observations, their perspectives, and self-assessments of the experience, while also providing their own observations. Additionally, they ensured that residents had time to reflect on and react to the information provided. For some residents, more directed probing was required to ensure supervisors could help them see patient perspectives or recall a patient or family member's reaction during the interaction.

Phase 3: Confirm Content

Supervisors described how the R2C2 in-the-moment discussions differed from their usual R2C2 resident formal discussions. R2C2 in-the-moment discussions were constrained by time and truncated, while still achieving shared understanding of the experience and priorities. Supervisors described probing residents' understanding of what happened to ensure shared understanding. They noted that discussions about procedures were amenable to this type of probing as one could talk through each step of the procedure. In some cases, drawing on residents' experiences outside medicine was helpful, particularly with communication or professionalism issues where the learner lacked insight. One interviewee described creating a video of the resident performing a procedure, and watching it with that resident to help visualize what was suboptimal so that they could determine a way forward.

Phase 4: Coach for Change and Co-Create an Action Plan

Generally, coaching was done at the end of a session and involved collaboratively identifying one specific change that residents could address. Supervisors described how this was similar to the R2C2 resident formal model, in that residents were encouraged to co-develop the plan by identifying how the goal would be achieved, resources needed, implementation plan, timeline, and how results would be evaluated. Ensuring a follow-up plan was seen as important, whether the supervisor was able to work with the resident subsequently or the resident needed to seek the help of a different supervisor. Documenting the plan was seen as challenging in some instances, due to time constraints or when supervisors did not want to formally record negative or developmental information.

Others used the coaching to complete required program-specific assessment forms. If residents had difficulty coming up with a goal, supervisors noted they sometimes identified an area and then sought agreement on the goal. Rather than vague goals such as "read more" that were rarely helpful, participants described how they worked with residents to develop a plan for a specific goal so residents could apply what they learned to future clinical encounters.

Participants' suggestions and sample phrases were used to develop the final R2C2 in-the-moment trifold, included on the R2C2 website.[14] The BOX provides an abbreviated version of the trifold.

Discussion

Our interviews with supervisors contributed to our knowledge about ways to provide feedback and coaching in the moment, a need identified by earlier research and CBME.[16–20] They identified approaches and specific phrases to adapt the R2C2 model for in-the-moment use to allow shorter and more frequent feedback conversations. In doing so, they maintained the core elements of the R2C2 resident formal model and found that the structured approach to building a relationship, exploring reactions, determining content, and coaching for change was a practical way to have a discussion even when time was limited or the focus was on a specific task.

As expected, there were differences and similarities in use of the R2C2 in-the-moment model compared to its use in formal meetings with physicians and residents in discussions that drew on collated data.[3,4,11,12] Of necessity, in-the-moment discussions were shorter, yet participants indicated that all 4 phases of the model remained important. They pointed out the need to use communication approaches and phrases within each phase that would engage the learner and yield an impactful conversation in the brief period of time available in busy clinical settings. This process required engaging residents in self-reflection and facilitating insight into their performance and encouraging them to commit to specific changes. Coaching in the moment requires specific communication and facilitative strategies to engage the learner and ensure commitment, similar to more longitudinal coaching.[12,22,23]

Specific differences arose in wording for phase 1, where relationship building differed between residents who worked with the supervisor for a brief time and those with a longitudinal relationship. As reported in earlier research related to feedback,[4,12,24,25] participants confirmed that relationship building was critical

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BOX Sample Facilitative Phrases Used in Each Phase of R2C2 in the Moment

Phase 1: Build Relationships

- First meeting: This is the first time we have worked together. To help learners progress efficiently, I like to observe one thing learners are doing and have a feedback and coaching discussion about the experience. How does that sound and what would be useful to you?
- For following up with continuing learners: During our last discussion, you identified that you would be working on [X]. How has that been going for you?
- For both a first meeting and a continuing learner: What do you want to achieve today? What skills are you working on? What can I observe?

Phase 2: Explore Reactions and Reflections

- Gain learner perspective: How was that experience for you? What went well? Were there challenges for you? Did anything surprise you?
- Provide preceptor perspective: When I watched you, I observed [X]. I wondered, what made you decide to do that?
- Enable learner to reflect on and react to preceptor's comments: What are you thinking about hearing my observations?

Phase 3: Confirm Content

- Is there anything we discussed that isn't clear?
- Do you agree with what I have said?
- Now that we have talked about [X], what is your goal?
- To summarize, I hear you say that you want to work on [X], is that correct?

Phase 4: Coach for Change and Co-Create an Action Plan

- Set a goal: Now that we have established some directions for learning, what specific goal requires the most attention right now?
- Establish plan: How will you achieve this goal? What might get in your way? What resources will you need? Who will help you? When will you begin to implement this plan?
- Determine a follow-up plan: Let's talk about how you will follow up. Who will you follow up with? What will this require? What is your timeline? How long might it take for you and others to see results? How will you know when you have achieved your goal?

to success of the learning conversation. Building the relationship occurred during the various phases depending on whether or not the supervisor had a prior relationship with the learner and the nature of that relationship.

The iterative interplay between phases 2 and 3 (reaction and content phases of the model, which focused reactions to the activity, reflections on the activity, and self-assessment leading to discussions of specific content) were more pronounced in the moment. Supervisors described exploring both residents' views and their own, actively reflecting on and responding to residents' responses, and moving toward a shared understanding of the event and identification of a goal moving forward.

Coaching for improvement was a critical element of the feedback discussion, yet action planning needed to be specific and realistic, so residents were clear on what they should do in a short period of time about a specific skill or activity. While coaching and planning for improvement enabled facilitating by specific goals,[1,22] the time pressures for the coaching conversation and the opportunities for residents to enact the change and receive follow-up feedback highlight the importance of this step for in-the-moment clinical coaching.

There are limitations to the study, as a small number of interviews with supervisors were conducted. We did not obtain residents' perspectives. Four of the interviewees were members of the research team who would have been able to recognize their own data in the spreadsheet and in the summary data provided. We recognize this adds a level of bias, although in the consensus discussions, it didn't appear that anyone's particular interview or data became a focus for the final content of the trifold.

This research will continue with the recruitment of dyads of supervisors and residents/clinical clerks who will be audiotaped during a feedback session with each member of the dyad participating in interviews soon after the feedback session. This will help assess viability and utility of this version of R2C2 with a larger and more diverse population in various clinical settings.

Conclusions

Perspectives of clinician educators have informed development of an R2C2 model for in-the-moment feedback and coaching. The model emphasizes key principles of earlier R2C2 models and of feedback and coaching in general (ie, importance of relationships, engaging learners, fostering reflection, seeking their views, identifying goals, and collaboratively developing an action plan). It appears this model's 4 phases help structure in-the-moment feedback in varied teaching contexts. Specific phrases and adaptations within each phase were identified to enable effective coaching interactions in time-constrained in-the-moment encounters.

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