Using **Accountable Talk** practices to build the mind

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Children are born with the innate capacity to reason beginning at a very young age (Carey, 2009; Gopnik and Wellman, 2012; Spelke and Kinzler, 2007). Very young children build explanatory systems—implicit theories—that organize their knowledge. These theories enable children to predict, explain, and reason about relevant phenomena and, in some cases, intervene to change them. For over 20 years, the Institute for Learning (IFL) has championed that the process of socializing intelligence takes place in and through talk. The IFL defines intelligence as much more than an innate ability to think quickly and stockpile bits of information. We believe intelligence is a set of problem-solving and reasoning capabilities, along with the habits of thinking that lead one to use those capabilities regularly. It is also a set of beliefs about one’s right and obligation to understand and make sense of the world and one’s capacity to figure things out over time (Resnick, 2010). Intelligent habits of mind are learned through daily expectations placed on the learner. By calling on students to use the skills of intelligent thinking, and by holding them responsible for doing so, educators can help develop students’ minds.

With this kind of robust evidence, it seems obvious that schools and school districts would foster the type of talk that promotes problem solving and reasoning. When educators set higher goals for every student, they can use classroom talk to teach students to think and make knowledge. The IFL uses the term Accountable Talk® practices for this kind of discourse. Using Accountable Talk practices with integrity for at least 90 minutes a week can produce powerful learning resulting in growth in demanding accountability systems (Resnick, 2019).

We need to make clear that most classrooms still use recitation where students learn to repeat what others have decided is important to know. The teacher asks the question, the student responds, and the teacher acknowledges whether the response is right or wrong. Often this type of instruction is accompanied by sets of questions aligned with Bloom’s taxonomy. This approach requires that students acquire lower-order skills before being allowed to grapple with higher-order skills. Current research does not support this view. Studies show that students in average and low-performing schools were not only able to participate in high-level discussions, but their progress was also greater compared to peers who were not taught this discussion method (Resnick, et al., 2015).

Accountable Talk practices, when carried out with integrity, include every student in the class and do not exclude English learners or students in special education. In fact, these students show the greatest progress in learning and achievement when they participate in discussions using high-leverage practices that include Accountable Talk practices (Matsumura, Garnier, & Spybrook, 2013).

So let’s get down to the serious question of what it really means to implement Accountable Talk practices with integrity. In classrooms where Accountable Talk practices are evident, every learner has a right and an obligation to participate in advancing the learning of others. Students wrestle with ideas and move back and forth through...
Increasing high-quality student talk

While the quantitative data met teachers’ goals of increasing the amount of time students spoke to one another during class, teachers questioned their ability to accurately discuss evidence of student learning. They asked questions such as “Was the talk academically productive?” and “How do I know my students understood the text?” Our takeaway was that we need to think carefully about what we want to know (in this case, not only how to increase student-to-student talk but also how to increase high-quality, text-based student-to-student talk) and what practical measures will help us understand the answer.

During the final nine weeks, teachers tweaked their problem statement: Students are not utilizing the high-leverage practice of Accountable Talk and holding high-quality, student-driven discussions. Teachers collaboratively designed and implemented complex and engaging texts and created cognitively demanding tasks using student-centered routines (e.g., quick writes, pair share, whole group discussion). They also designed a rubric to help qualify how they define quality talk. During implementation, teachers planned to study the quality of the talk and the talk moves that both teachers and students used to make meaning.

During their last professional learning session, teachers shared that students were using moves and functions, but superficially. Teachers hypothesized the belief that in order for discussion to be academically productive, students (and some teachers) think that the language they use must be Standard English. As a group, teachers decided that a next step would be to emphasize the thinking and what students say instead of how they say it. In other words, teachers want to study the student thinking more than the words or talk moves.

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Conferring with teachers & coaches requires setting clear learning goals

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IFL co-director

Conferring with teachers in advance of observing a lesson is a critical component of the Content-Focused Coaching® (CFC) cycle. These “pre-conferences” are opportunities for the coach and the teacher to reflect together about a teacher’s lesson plan, and thus are a rich opportunity for teacher learning. Lesson planning is specifically important for facilitating rigorous Accountable Talk® classroom discussions. For such discussions to be successful, teachers need to set clear and specific learning goals and plan questions that support students to achieve these goals. Teachers also need to anticipate content that might pose difficulty for students, or might require background information to understand, and have a plan for what to do if students seem lost or are not participating. Absent this advance planning, it is all too easy for class discussions to lose focus and develop in ways that do not further student learning.

Planning for rigorous Accountable Talk discussions, however, can be challenging. Here we describe some specific ways that coaches can help teachers when they are first beginning to develop lessons for rigorous and interactive text discussions that build students’ reading comprehension skills.

Specify the learning goals. When teachers are first beginning to plan for text discussions, they tend to set very general learning goals for their class discussions. For example, they might set as their learning goal that students comprehend the theme of the book or the topic of a reading. Teachers can also confine learning activities with goals, for example, that students actively participate in the discussion or complete an assigned task. In all of these cases, when reflecting on a teacher’s lesson plan, a coach can help by working with a teacher to clarify the major understandings or ideas students are to glean from a text or lesson, and “right size” their learning goals so that they are feasible to attain in a lesson.

Minimize front loading information. Students sometimes need a little background knowledge to grapple productively with complex content. When teachers are first beginning to plan for rigorous discussions, however, there can be a tendency to provide—often at the beginning of a lesson—a great deal of background information in the form of a lecture, pictures, or even videos. This can be problematic in literacy instruction because “too much” information can reduce the rigor of the reading experience for students as they may no longer need to rely on text language to construct an understanding of a text. Or in the case of mathematics instruction, front loading too much information can “give away” the answer or strategy for solving a problem before students have a chance to solve the problem independently. Background information that is tangential to the text or problem also can distract students from key ideas and set discussions on a path that leads them away from intended learning goals. In the pre-conference, a coach can help teachers by supporting them to clarify the minimum amount of information students need to engage in a discussion, while not reducing the rigor of students’ experience.

Develop queries to address big ideas and possible misunderstandings. Developing open-ended queries that move students toward intended learning, and Accountable Talk moves if students appear lost or are not participating, is a critical component of effective lesson planning. When teachers begin to plan for rigorous class discussions, there can be a tendency to develop questions for which there is only one correct answer, or to develop questions that can unwittingly focus students’ attention on tangential information that can distract from the intended learning for a lesson. Planned questions can also contain extra wording that constrains student thinking (e.g., What is happening now that Samar has come home from school and the reporter is asking questions?), or in the case of literacy instruction, direct students to focus on a narrow portion of a text. A coach can help a teacher by working with them to carefully word their planned queries so that they open up avenues for student thinking and opportunities for students to think together to make sense of challenging content.

When students engage in successful Accountable Talk discussions, it is important to remember what takes place in order for these discussions to be effective. Providing teachers with opportunities to participate in CFC cycles around Accountable Talk discussions allows the coach and the teacher to reflect on the lesson plan, thinking about the learning goals and the specific questions designed by the teacher to move the discussion forward, and achieve the identified learning goals.

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Implementing **Accountable Talk** discussions in math

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“It definitely makes my heart smile when I hear a teacher say, ‘I just stopped what I was doing because the student knew more than I did and just took over!’ or ‘I began to feel frustrated because we were not able to work through the content the way that I originally planned, but I learned so much about what they know and have experienced by re-framing some of my questioning and allowing them to create the questions too.’ It DOES matter who’s talking in class because the amount of talk that students do is correlated with their achievement.” The more time the students have practicing their thinking, listening and speaking skills around content, the more ownership they have over their learning.

This quote comes from April Perry-Schlatterer, the principal of Braddock Hills Elementary School (BHES), a part of Propel Schools in the Pittsburgh area, and she is speaking of the school’s focus on **Accountable Talk** discussions in math classrooms this year. Braddock Hills partnered with the IFL to coach teachers in the implementation of high-level tasks and how to facilitate productive discussions around mathematics.

Shaasia Jackson teaches kindergarten at BHES and says, “One of the greatest accomplishments for me is watching my students interact with each other and sharing their responses. It helps them learn from one another and it also helps me understand how my students think as learners.”

Facilitating productive discourse in mathematics is one of the eight effective teaching practices named by the National Council of Teachers of Mathematics. Teachers must be “engaging students in purposeful sharing of mathematical ideas, reasoning, and approaches using varied representations” and “facilitating discourse among students by positioning them as authors of ideas who explain and defend their approaches.” (2014, p 35). Facilitating mathematical discussions also helps students develop a deep understanding of mathematical concepts (Cross 2009; Kazemi and Stipek 2001; NRC 2001). These discussions do not happen by accident; they take planning for what student work will be shared and what questions will be asked to elicit the deep mathematical ideas.

We often hear a common theme from teachers, as Ms. Jackson expresses, when it comes to creating space for talk, “I think the greatest challenge for me was time. Sometimes it takes longer to have these Accountable Talk discussions. I believe the key to overcoming this is being creative and making sure the questions and the discussions are engaging.” She also goes on to say that taking that time yields success for students. “I think **Accountable Talk** has helped my students think about math on a deeper level. It makes the students want to understand the principles of the problem and how to solve it in comparison to other problems.”

Principal Perry-Schlatterer adds, “Many teachers are reluctant to turn the class over to collaborative learning, or expression of thought, for fear that they will lose control and thus lose valuable instructional time, when actually, it is quite the opposite. We can empower our students to be in charge of their own learning by creating interesting, open-ended tasks that target real-world skills, meet our learning objectives, and enable students to make choices and then measure and reflect on their progress.”

As the Assistant Director of Curriculum, Instruction, and Assessment for Mathematics for Propel Schools, Lindsey Smith is always taking stock of where teachers are in their practice and what they need in order to be supported to try pedagogy that might be new for them. “Improvement work takes time and failure. Teachers need to feel a sense of trust at many levels. As leaders we have to be careful about how we communicate the need for change and about how we set up a culture of professional learning. Focusing on the why behind what we are doing, being explicit about the difficulty of the work but also the payoff, that we learn from our failures and by taking risks, and staying focused on the goal of student learning are all essential to the success of the work.”

Change is often difficult, but the outcome is worth it when we see student learning! Ms. Smith adds, “One noticeable difference in the classrooms that have been working most closely with the IFL coach is the amount of student-to-student talk that is occurring. Students are much more in tune with the contributions of their classmates now. They are seeing themselves as contributors and not just as recipients of the learning.”

Facilitating talk in which students are all actively engaged in the learning community, attending to the mathematics, and are pressed for rigorous thinking is a lot to undertake, especially in a single math discussion. Smith shares a story that exhibits the critical nature of talk:

“A teacher was really reinforcing the idea that students are expected to be able to re-explain what a classmate is saying in their own words. It was quite painful at first, going back to the same student again and again to re-listen and try again, but the teacher was persistent and did not give up. At the end of the lesson, the teacher debriefed with the class to get their reactions and reflections on what they had been practicing that day. One of the students, the one who was pressed multiple times during that particular lesson, shared that they ‘liked having to really listen to each other’. This made me (and the teacher) realize that sometimes what seems uncomfortable to us is not so uncomfortable to students, and by protecting them in the moment, we are robbing them of learning.”
Weighing teacher choices to maximize student contribution

Kristin Klingensmith
IFL mathematics fellow

Accountable Talk® discussions are discussions that promote learning. They are discussions that have evidence of accountability to the learning community, accurate knowledge, and rigorous thinking.

Engaging in Accountable Talk® discussions requires that students listen and respond constructively to others’ ideas and exert effort to explain their thinking with evidence in order to make progress in solving a challenging problem. As a matter of equity, every student in every classroom has the right to engage in Accountable Talk® discussions.

Growing and refining the pedagogical practice of facilitating Accountable Talk® discussions takes intention, time, and effort. To facilitate such discussions, the teacher must have an understanding of the content being studied, and student thinking related to the content. They must have a learning goal in mind. The teacher must also value the students who make up the learning community and believe that they have worthwhile and relevant thoughts to contribute to the discussion.

Facilitating an Accountable Talk® discussion is a bit like a choose-your-own-adventure story where every decision changes the path of the conversation. Regardless of the pathway chosen, though, by the end of the “story” every student has had access to a rigorous discussion through which their understanding has advanced.

Sounds easy, right? We wish. In reality, it is quite complex. So let’s look at classroom scenarios and consider some ways a teacher might respond and the impact of those responses on the discussion.

A fifth grade class is engaging with a high-level task involving grams of sugar and cans of soda. The task is intentionally designed for students to create their own inquiry based on a series of observations and wonderings.

Michael is sitting at a desk positioned away from the rest of the class. He has recorded observations and wonderings. He says quietly to one of the adults in the room, “I wonder if the pack holds 12 or 24 cans?” The adult smiles and says that it is a great wondering and to write it down. He records “12 cans? 24 cans?” on his paper.

A while later, students share their observations and wonderings. They know that one can of soda contains 4.6 grams of sugar and that there is a whole pack of soda. The class establishes their inquiry, “How much sugar is in a pack of soda?” Then one of Michael’s classmates says that there are 12 cans in the pack. Michael calls out, “What? I didn’t see that anywhere. It could be 12 or 24.”

Let’s pause here. There are many ways that a teacher may respond to Michael in this scenario, but let’s focus on just three possible responses and their potential impact on the discussion.

#1 – The teacher corrects Michael for not raising his hand before speaking.

While rules like “raise your hand before talking,” and “wait to be called on” are prevalent in classrooms and well intentioned, instructional conversations do not always fit into such constructs. By choosing to correct the way Michael contributed, the value of his contribution is missed. During instructional conversations, teachers must often balance the need to follow the “rules” with the importance of honoring excitement and genuine inquiry.

#2 – The teacher takes up Michael’s comment and turns it back to the student who made the observation that there were 12 cans in the pack.

This move messages that Michael’s contribution is valued and that observations can be questioned. The move also allows the two students to support their observations by removing the teacher as the authority.

#3 – The teacher asks the class, “I wonder how the sugar in 12 cans will compare to the sugar in 24 cans of soda?” and records “12 cans? 24 cans?” on the board.

This combination of moves validates Michael’s wondering while setting up a new mathematical inquiry into the relationship between the sugar in 12 cans of soda and the sugar in 24 cans of soda. When comparing the two solution paths below, students can reason about why the product, the total grams of sugar, doubles when one factor, the number of cans, doubles.

Of these three responses, only #2

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the learning process. Students freely explore ideas and express their understanding using their own language. “Ultimately, through participating in Accountable Talk, students learn to reason their way toward understanding. Reasoning—processing, interpreting, and being able to do something new with information—is the way we solve problems in the adult world. Instead of passively allowing some students to learn these skills by accident, schools can teach them deliberately, by changing the way talk occurs in the classroom.” (Resnick, Asterhan, and Clarke, 2018)

Below are a few brief ideas that can get talk started at the beginning of the year. For a deeper discussion of Accountable Talk practices, we encourage all to read “Accountable Talk: Instructional dialogue that builds the mind” by Resnick, Asterhan, and Clarke (2018). Take a look at an Accountable Talk discussion in action.

If you’re interested in producing robust learning in content and in argumentation, don’t leave the students’ potential to grow on your list of things to do when you have time. Spend at least 90 minutes a week growing your practice to orchestrate classroom discussions where every student can maximize potential. It’s their right and necessary to bring equity to the education of every student.

Setting Norms for Talk

Accountable Talk practices are not just about being civil. They are about knowing how to respond when there is disagreement. They require returning to texts repeatedly to find evidence to support claims and the ability to be unsure but willing to talk through uncertainty. Educators foster these skills by asking students to explain how they arrived at conclusions, provide evidence from texts for their responses, and ask one another to defend their responses. Educators need to explicitly set norms that make it not only acceptable but also expected for students to debate one another. Students should expect others to ask them how they arrived at answers and why they came to particular conclusions.

Including Everyone

Some students may struggle in making their explanations, and others may even need to make some of the explanations in a language other than English. It is the quality of the argument that is important, not the form used to express the thinking. This is important to remember if equity is a goal for your teaching. Be prepared to scaffold without diminishing the rigor of the discussion.

Designing Cognitively Demanding Tasks and Selecting Complex Texts

Tasks need to be designed to ask students to reason, explain, and elaborate on their thinking—the cognitive processes that support knowledge building. If educators want students to grapple with challenging ideas, those ideas have to be present in the text. Texts without them are not worthy of the kinds of robust discussions at the center of Accountable Talk practices. Educators need the opportunity to select complex, culturally relevant texts and to analyze and discuss them with colleagues so students have access to materials critical to building new ideas and think through authentic problems.

Writing Questions That Invite Talk

Questions that involve simple recall and have only one right answer don’t lead to deeply engaged discussions. Educators need to develop questions that allow students to explore a variety of ideas and possible solutions. This may take time and can sometimes be frustrating for students and teachers alike. It helps for educators to try to answer their own questions prior to inviting students to respond. If the educator cannot think of more than two or three possible responses to a question, that’s a sign that the question should be adjusted to allow for more ideas and multiple possible correct answers.

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and #3 align with features of Accountable Talk discussions, and only #3 illustrates how a student’s contribution can be recognized and leveraged to create opportunities for rigorous thinking about a mathematical relationship for everyone in the community.

When we consider the impact a response to a student contribution has on the discussion, we can gain insight into the complexity of facilitating Accountable Talk discussions. When thinking about and reflecting on the “in the moment” decisions during classroom discussions, it is helpful to consider if the move provides students greater entry into the discussion, holds them to accuracy of their claims and thinking, and/or sets up opportunities to discuss mathematical relationships. Because there is no one way of facilitating an Accountable Talk discussion, it is incumbent upon all of us to be critical friends and colleagues. Through collaborative and engaged discussions with colleagues about our pedagogical choices, and with honest self-reflection, we can move toward providing more rigorous and equitable learning environments and instruction for every student.

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Teachers’ next action, which they plan to focus on in the upcoming school year, is to write classroom discussions when implementing a high-level task using a rigorous and engaging text. The purpose is two-fold: (1) to collect classroom data in order to analyze the quality of talk based on rigorous questions and (2) to find authentic examples of talk moves that students use regardless of chosen dialect. For example, instead of a student saying, “I’d like to add on to what Andrew said,” a student may say, “I feel Andrew because...” Both statements work to link contributions regardless of the exact words that students say during the discussion. These examples of student talk moves will be used to refine the Accountable Talk® Moves and Function tool used in Schenectady High School. Our working hypothesis is that authentic examples of rigorous thinking will help illustrate that the talk stems are meant as entry points into conversations, but should not be used in formulaic or generic ways that don’t move the conversation forward in academically productive ways. Our hope is also that it helps students and teachers alike develop an understanding and respect for diversity in language use.

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IFL joins NSI grantees for first-year learning celebration in Baltimore

The Institute for Learning (IFL), joined by the University of Pittsburgh’s Center for Urban Education and the Learning Research and Development Center partnered with the Dallas Independent School District (ISD) to serve as a network improvement hub in literacy for 14 Dallas ISD secondary schools serving predominantly African-American, Latino, and low-income students. The project is funded by a 5-year, $7.4 million grant from the Bill & Melinda Gates Foundation. The goal of the project, led by IFL co-director Anthony Petrosky, is to support teams of teachers and leadership to use improvement science methods to increase the number of students in the partner schools who are on-track for high school graduation at the end of ninth grade.

Teams of educators from the 14 schools in Dallas ISD comprise a network who meet regularly to focus on the problem of practice, identify the root causes that may be impacting student performance, and collect and study data that will best meet the students’ academic needs. English language arts and writing were selected as the focus of the project because the data show this is an area where students are struggling, and improvement in this area will transfer to other courses across subject areas. After the first year of working in the district, educators are seeing great promise in the power of the network and its impact on the classroom. To see this exciting work in action and the inspirational educators who are part of the network for school improvement in Dallas ISD, check out this video on the IFL website.

On July 16, IFL directors and fellows joined Dallas ISD leaders, Pablo Singh, Manager, ELAR & Social Studies; Arlena Gaynor Director ELAR; and Shannon Trejo, Deputy Chief Teaching and Learning, and other NSI grantees and supporters in Baltimore to celebrate learnings from the first year of experience around launching a network. The recorded event featured IFL executive director Rosita Apodaca in a panel interview along with leaders from other NSI intermediary organizations including Dr. Juli Coleman, deputy chief of improvement, CORE Districts; Ryan Mick, vice president, School Design and Improvement, City Year, Inc.; and Michelle Bowman, associate director of communities, Learning Forward.

The panel, moderated by Vivian Mihalakis, senior program officer, Bill & Melinda Gates Foundation, discussed the importance of context and place in supporting schools as teams of teachers, leaders, and coaches use continuous improvement practices to examine the root causes of the challenges they are tackling.

The Bill & Melinda Gates Foundation recently released a report describing the work and progress of the 21 organizations it is funding to work with middle and high schools to improve outcomes for the most vulnerable students.

According to the report, in the next 5 years, the foundation hopes to share the following:

1. Whether schools can use the data-driven continuous improvement to drive change that improves student outcomes
2. How schools can use evidence-based solutions and adapt them to maximize their impact in a local context
3. How networks work with schools to implement a continuous improvement strategy
4. Characteristics of effective networks and intermediaries and how they support school-led efforts
5. The current capacity of networks and schools to engage in continuous improvement efforts.

From left to right: Tony Petrosky (IFL), Rosita Apodaca (IFL), Pablo Singh (DISD), Shannon Trejo (DISD), Sara DeMartino (IFL)
Content-Focused Coaching® Mathematics Online

September 19, 2019

The Institute for Learning (IFL) is pleased to announce a new online workshop to support instructional coaches who are responsible for supporting math teachers. Drawing on IFL’s extensive experience with coaching, this workshop focuses on specific practices and routines that coaches can use during the coach-teacher discussion cycle to improve classroom instruction. We will explore the Content-Focused Coaching (CFC) cycle in mathematics, specific coach moves used during the CFC cycle, and these key research-based coaching practices:

- Maintain an inquiry stance toward teaching and learning.
- Co-construct mathematical and pedagogical goals.
- Maintain a content-focused discussion.
- Engage in evidence-based reflection.

Together, we will learn to differentiate between mathematics goals and performance goals and explore pedagogical goals. We’ll study a set of coach moves and the benefit of the coach moves for focusing and supporting teacher discussion of mathematical and content pedagogy. Finally, we’ll plan for a coaching discussion with a teacher, learn how to prepare for the post-lesson discussion with that teacher, and discuss how to provide evidence-based feedback. Workshop participants will engage in impactful, research-based learning routines. You will see models, get to apply new learning in your own classroom, and receive feedback from peers and your IFL facilitator. After participating in the workshop, you can expect to see and experience observable changes in instruction and student participation.

This 8-week coaching workshop begins on September 19, 2019. Register today at pi.tt/CFConline.

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Content Overlapping Verbal-language and Efficacy (COVE) Workshop

September 17, 2019

Math is everywhere! Early learning experiences shape not only students’ mathematical thinking, but also their thinking about what mathematics is.

Join the Institute for Learning (IFL) for a mathematics workshop designed to explore the ways content understanding overlaps acquisition and development of verbal-language skills and self-efficacy.

IFL mathematics fellows developed COVE based on years of research about teaching and learning in early childhood. COVE is designed to support educators in assessing and advancing children’s thinking and reasoning in mathematics. Workshop Highlights

During the COVE workshop, you will explore learning maps and indicators of understanding aligned for the concepts of sorting and categorizing, conservation, and counting and cardinality. Learn how to analyze student understanding through multiple lenses—mathematical content knowledge, mathematical verbal-language, and self-efficacy. Together with your peers, you will consider the role of the teacher to press students to think and reason about mathematics and communicate their understanding.

Who should attend?

- Pre-K and kindergarten educators (serving students ages 3–6)
- Early learning directors
- Elementary mathematics coaches
- Early elementary curriculum coordinators

Register today at pi.tt/IFLCOVE.

Did you know IFL offers robust instructional materials in English language arts and mathematics?

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