

**Taking the Lead: Child-Initiated Decisions  
and the Development of Metacognition and Self-Regulation**

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**Abstract**

Many essential skills and competencies develop during early childhood, particularly the application of rationality in decision-making. Valuing and applying rationality is grounded in the capacity for self-regulation and metacognition, in which children monitor and adapt their own behavior and ways of thinking (Alliance for Decision Education, 2023). Child-initiated activities in play and learning are essential to the development of metacognition and self-regulation in young children. Recommendations are provided for educators, caregivers, and developers of curriculum to support children's autonomy in making rational decisions.

## **Taking the Lead: Child-Initiated Decisions and the Development of Metacognition and Self-Regulation**

### **Introduction**

Young children are regularly subject to decisions made about them; their daily schedule, their meals, their interactions, and their education are often all elements that are decided by adults on their behalf. This is necessary for their wellbeing, and the responsibility of caregivers is not to be diminished in ensuring a safe and productive environment for growth. However, young children often lack opportunities to make decisions for themselves in areas for which it is developmentally appropriate for them to do so. They can become overly reliant on outside guidance for making decisions, rather than developing the agency and rationality to guide their own choices.

Early childhood is a critical period for the development of many skills and competencies necessary for decision-making and cognitive ability (Sodian *et al.*, 2012; Whitebread & Basilo, 2012). Among them is the valuing and applying of rationality, a key facet of decision-making in all life stages (Alliance for Decision Education, 2023). The Alliance for Decision Education (2023) explains that valuing and applying rationality involves approaching decisions in ways that are consistent with our values to form accurate judgements; this includes the willingness to assess our beliefs, set goals in alignment with them, and reflect on our reasoning. The application of rationality is grounded in the capacity for self-regulation and metacognition, in which children monitor and adapt their own ways of thinking and behaving (Alliance for Decision Education, 2023). These abilities are essential; Wang *et al.* (1990) find metacognition as the most powerful indicator of learning, and additional studies show it is even partly independent of intelligence

(Veenman *et al.*, 2004). For this reason, metacognitive and self-regulatory skills must be taught as elements of effective decision-making.

In early childhood, the foundation for these skills is laid in the interactions of children with their environment, caregivers, and peers (Sodian *et al.*, 2012; Whitebread & Basilo, 2012). Like many competencies, their growth stems from experience and opportunities to initiate their own growth. Child-initiated activities in play and learning are essential to the development of metacognition and self-regulation in young children, and thus the development of rationality.

### **The Interplay of Metagonition and Self-Regulation**

Rationality is a component of decision-making which involves developing values, adopting goals with which they align, and making decisions which seek to achieve these goals (Alliance for Decision Education, 2023). It is inherently linked to self-regulation and metacognition; in order to reflect on one's values and develop goals, a person must evaluate their own patterns of thinking, distill their beliefs, and plan a course of action in accordance with them. For this reason, rationality includes the sub-skills of self-regulation and metacognition (Alliance for Decision Education, 2023).

Self-regulation is a multi-faceted term, and its definition is variable depending on the context (Cole, Martin, & Dennis, 2004; McClelland & Cameron, 2011; Mujis & Bokhove, 2020; Rueda, Posner, & Rothbart, 2004) As it relates to decision-making, self-regulation is a learner's awareness of their strengths and weaknesses, their emotions and beliefs, and their ability to self-select strategies which will help achieve their goals (Mujis & Bokhove, 2020). A learner demonstrating self-regulation, for example, recognizes that feelings of anxiety are influencing their thoughts, and adjusts their approach to decision-making to mitigate the anxiety's effects.

Metacognition is the extent to which learners monitor, plan, and evaluate their learning and thinking (Chick, 2013; Mujis & Bokhove, 2020; Robson, 2016b). The definitions of these key terms vary among studies and theories; while some studies suggest that self-regulation is part of metacognition, the inverse relationship is most commonly held, indicating that metacognition is an element of self-regulation (Gascoine, Higgins, & Wall, 2017; Robson, 2016b; Veenman *et al.*, 2006). For the purposes of this literature review, the author will delineate metacognition as involving the monitoring of only *mental* processes and behaviors, whereas self-regulation also includes a learner's monitoring and *external* choices in their interactions with the environment (Manion, 2018).

Metacognition and self-regulation are skills to be used and developed throughout the lifespan. However, Whitebread *et al.* (2009) developed a checklist of behaviors that indicate the occurrence of metacognitive and self-regulatory skills in young children (see Appendix A). These include competencies such as whether a child “can speak about own and others’ behavior and consequences, monitors progress and seeks help appropriately,” and “is aware of own strengths and weaknesses” (p. 81). While some of these items are difficult to observe, they are examples of the types of behaviors which can enhance a child’s ability to value and apply rationality.

### **Development of Metacognition and Self-Regulation in Early Childhood Decision-Making**

Early research suggests the essentiality of children’s metacognition and self-regulation in childhood. Erikson (1963) developed a theory of eight stages of psychosocial development, through which he believed all individuals progress through their lifespan. The first five stages, which are expected to occur from birth to approximately age eighteen, are highly dependent on the development of a child’s sense of self and competence in directing choices. For example,

from ages 1-3 years, children are expected to either develop a sense of autonomy, or if their autonomy is not nurtured, a sense of shame and doubt in their abilities (Erikson, 1963; Mcleod, 2024). From 3-6 years, children may either develop a sense of initiative, beginning to plan their actions with intention, or feel a sense of shame if their initiative is met with criticism (Erikson, 1963; Mcleod, 2024). Children ages 6-11 years learn to cooperate with others and to direct their skills toward achieving increasingly complex goals; if their efforts are not nurtured, they may develop an over-reliance on others as they doubt their competence (Erikson, 1963; Mcleod, 2024). The conflict in these stages makes evident the need for nurturing the autonomy, initiative, and industry of young children to support their development and decision making.

During these early developmental stages, growing metacognition and self-regulation are necessary for favorable outcomes. Child-initiated and child-directed activities have been shown to enhance these skills in early childhood, particularly through allowing opportunities for children to engage in private speech and direction of their own choices.

### ***Vygotsky and Private Speech***

One way that children begin to engage in metacognition is through the practice of private speech. Vygotsky's (1978) sociocultural theory suggests that children's self-talk, or private speech, is the beginnings of metacognition and self-regulation. When children talk aloud to themselves, they are beginning to self-direct their behavior and thinking and select courses of action (White & Daugherty, 2009; Vygotsky, 1978). Private speech is most common during the ages of 4 to 6 years, and is gradually replaced by the internal metacognitive self-talk which is no longer audible (Winsler & Naglieri, 2003). The audible private speech, however, gives us insight into how children self-regulate and practice metacognition during early childhood.

***Studies Involving Child-Initiated Tasks***

To facilitate private speech, and thus metacognition and self-regulation, children must be given opportunities to self-monitor and direct their choices without an adult as the dominant voice. Robson (2016a) investigated the balance between child- and adult-initiated activities in early childhood; children ages 4 - 5 years were studied in two contexts, one in which the adult's decisions were paramount and one in which the children were given full autonomy. In the child-initiated activity context, children were significantly more likely to demonstrate metacognitive behaviors and self-regulation. In adult-initiated activities, children were highly likely to yield all control of decisions to adults (Robson, 2016a). In this study, adults were still present during child-initiated activities; their presence, however, was merely to provide procedural knowledge (i.e., the *how* to perform a task) while the goals and decision-making (i.e. *why* and toward what end the task is accomplished) was left to the children. This highlights the benefits of providing children the spaces and opportunities to lead inquiry, thus engaging in self-regulatory and metacognitive behaviors with the guidance and support of adults.

In another study of child-initiated vs. adult-directed activities, adult presence was removed from the context entirely. Robson (2016b) found that when adults were present, the children's attention focused on them, seeking their approval and looking to them to set goals and roles, monitor their progress and resolve disputes. The data showed that adult presence was again supportive of procedural knowledge, but that children showed greater evidence of metacognition and self-regulation in the absence of adult involvement (Robson, 2016b). Whitebread *et al.* (2007) support these findings with data to suggest that metacognitive behaviors occur most frequently when child-initiated activities occur in pairs or small groups, uninfluenced by adults.

The most productive learning contexts involved extensive talk among children, collaboration towards goals, and peer-assisted learning (Whitebread *et al.*, 2007).

### **Implications for Practice: Learning Environments Which Foster Decision Education in Metacognition and Self-Regulation**

To create learning environments which help children develop metacognition and self-regulation, and therefore the application of rationality, educators, caregivers, and designers of curriculum should consider pedagogical approaches to center children's autonomy. Teachers should also be provided with training and education to support the implications of these suggestions.

#### ***Opportunities for Planning, Monitoring, and Control: Project-Based Learning***

Whitebread *et al.* (2009) characterize metacognition as the planning, monitoring, controlling, and evaluating of a person's progress toward a goal, as well as their awareness of their own abilities and strategies available. Children engaged in this type of thinking may audibly or silently say things like *I'm going to try cutting it in half* (planning), *This piece is too big, it doesn't fit* (monitoring), or *We can use tape instead of glue* (knowledge of strategies available). These behaviors are most likely to be practiced when children have ample opportunities to self-direct their learning, and without excessive direct instruction from adults.

Project-based learning entails several key facets: students lead a project which requires them to engage in sustained inquiry, work collaboratively, share their findings with an audience, and reflect on the project's role in their acquisition of skills and understandings (Grossman *et al.*, 2021). Students develop agency through collaboration, engaged in meaningful and practically applicable activities (Barron *et al.*, 2014). Project-based learning addresses a need to engage students in authentic disciplinary work (Grossman *et al.*, 2021) that hinges on their own voices



and decision-making (Larmer & Mergendoller, 2010). While project-based learning usually begins with learning goals developed by adults, the smaller steps toward the goal can be directed by children. The opportunities for collaborative inquiry lead children to make decisions on their own, applying rationality through self-regulation and metacognition.

### ***Explicit Instruction of Metacognitive Behaviors***

Metacognition and self-regulation are behaviors which can be explicitly taught. Biemiller & Meichenbaum (1998) studied grade 1-6 teachers who were given awareness training in metacognition. The teachers used think-aloud techniques during instruction to model metacognitive behaviors, and labeled children's metacognitive behaviors when they were observable. In doing so, they made metacognition more explicit and were more likely to encourage these behaviors in their students (Biemiller & Meichenbaum, 1998). Teachers can also teach metacognitive and self-regulatory behaviors by coaching students through these opportunities to make decisions about their learning. Effective teachers of decision-making may provide activities that are open-ended, with opportunities for children to engage in self-assessment of their personal progress (Perry, 1998; Whitebread *et al.*, 2009; van Loon *et al.*, 2021).

**Self-Assessment and Reflection.** McGee (2017) suggests that students regularly give themselves feedback in the form of inner dialogue, though it may not be productive; teachers, have the opportunity to model productive and empowering feedback, and encourage students to provide such feedback to themselves. Inviting student reflection as a tool to support learning can initiate metacognition and self-regulation (Lyons & Zelazo, 2011). Teachers may use prompts to encourage reflection on learning behaviors, such as: *Why did you decide to use this strategy? What method did you consider using, but ultimately decided against? What worked well? What*

*are your goals with this?* By encouraging student reflection during and after learning activities, teachers can facilitate metacognition and self-regulation without interfering with their autonomy.

### ***Collaborative Learning***

Collaborative learning experiences create opportunities for children to engage in metacognition and self-regulation, but also to encourage these skills in one another. DiDonato (2013) studied middle school students who were engaged in group-work on a project. Students were found to demonstrate self-regulatory behaviors more frequently when collaborating, but also to engage in co-regulation, in which regulation occurs through interaction with the other children (DiDonato, 2013). When children work in groups, they must articulate their thinking and justify their decisions to others in order to find success, which makes metacognition and self-regulation concrete and observable. Similarly, these behaviors are reinforced by working with other children who are also directing their own goals, monitoring their success, and making decisions that affect the group. Collaborative learning, with less adult direction than direct instruction, facilitates the autonomy and independence necessary to support children's application of rationality.

However, adult proximity is valuable; McInnes *et al.* (2010) found that when adults were proximal to children's play, but not involved, greater problem-solving capacity was observed among children. They suggest that during peer-collaborative learning activities, the role of the adult can be to prompt with open-ended questions, to draw attention to metacognitive behaviors, provide opportunities for children's choice and control, and affirm children's autonomy rather than directly lead (McInnes *et al.*, 2010; Robson, 2016a; van Loon *et al.*, 2021).

### **Conclusion**

Young children are capable of making rational choices, and adults should support their development of autonomous metacognition and self-regulation. In doing so, we encourage effective decision-making and support the growth of rational adults who are capable of self-reflection and intellectual humility. However, we also encourage a desire to learn which will characterize education in a broader sense; when children feel trusted to make choices, supported in their autonomy, and scaffolded to develop their own values and goals, education becomes joyful and purposeful as it should be.

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## Appendix A

Observational Assessment Tool developed by Whitebread *et al.* for assessing metacognitive and self-regulatory behaviors in young children<sup>1</sup>

### Checklist of Independent Learning Development (CHILD) 3–5

Name of child: \_\_\_\_\_ Teacher: \_\_\_\_\_  
Date: \_\_\_\_\_ School/setting: \_\_\_\_\_

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Always Usually Sometimes Never Comment

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#### Emotional

Can speak about own and others behaviour and consequences

Tackles new tasks confidently

Can control attention and resist distraction

Monitors progress and seeks help appropriately

Persists in the face of difficulties

#### ProSocial

Negotiates when and how to carry out tasks

Can resolve social problems with peers

Shares and takes turns independently

Engages in independent cooperative activities with peers

Is aware of feelings of others and helps and comforts

#### Cognitive

Is aware of own strengths and weaknesses

Can speak about how they have done something or what they have learnt

Can speak about future planned activities

Can make reasoned choices and decisions

Asks questions and suggests answers

Uses previously taught strategies

Adopts previously heard language for own purposes

#### Motivational

Finds own resources without adult help

Develops own ways of carrying out tasks

Initiates activities

Plans own tasks, targets and goals

Enjoys solving problems

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Other comments:

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<sup>1</sup> Whitebread, D., Coltman, P., Pasternak, D. P., Sangster, C., Grau, V., Bingham, S., Almeqdad, Q., & Demetriou, D. (2009). The development of two observational tools for assessing metacognition and self-regulated learning in young children. *Metacognition and Learning*, 4(1), 63-85. <https://doi.org/10.1007/s11409-008-9033-1>