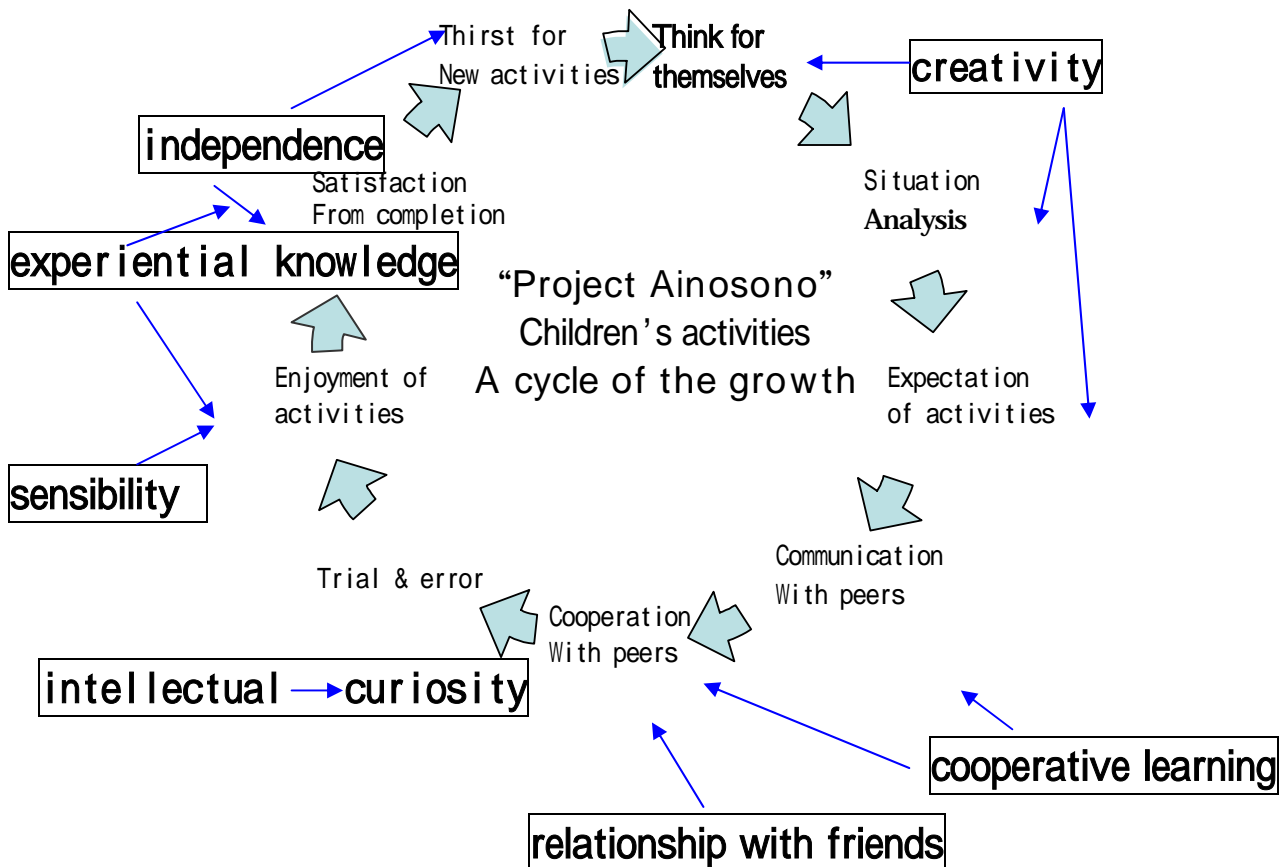


### 3. The Cycle to Nurture a “Scientific Mind” (within cooperative learning) Tachibana Ainosono Kindergarten (Amagasaki, Hyogo Prefecture)

#### I “Project Ainosono”

“Project Ainosono” is the name of our kindergarten’s educational initiative intended to nurture our children’s “Cooperative Learning of a ‘Scientific Mind.’” Listed below are the educational characteristics of “Project Ainosono.”

- Children thinking for themselves (knowledge)
- Children observing their surroundings and taking their own action to establish their identity (relationships, spontaneity)
- Having expectations and foresight regarding activities ahead (foresight)
- Discussing and cooperating with peers in doing activities (cooperation)
- Communicating their thoughts to peers while simultaneously accepting those of others in order to decide the direction of and to further their activities (relationships)
- Through trial and error, persevering to the end without giving up (confidence, independence)
- Using the joy derived from the completion of a task to move on to the next activity (confidence)



To support children’s activities that nurture “Cooperative Learning of a Scientific Mind,” the teachers created “Project Ainosono” based on repeated discussions about the children’s behavior. Furthermore, we felt it important that children be able to consciously continue these activities. To accomplish this, the teachers at times became role models and took on the activities themselves, where by conveying how fun the activities could be, they piqued curiosity and interest in the children. By doing activities together, the teachers

helped the children to make new discoveries and think on their own. In addition, by recognizing what the children were trying to do and by showing pleasure and appreciation in their achievements, the teachers tried to convey the joy and pleasure of the activity, give a sense of self-empowerment and instill confidence.

We believe that through their relationship with the teachers, children can repeatedly attain self-satisfaction and with this, gain a sense of self-respect and self-affirmation. This, in turn, nurtures the independence and strength to do activities together (strength to live) with their peers. Here lies the meaning of Project Ainosono's "Cooperative Learning of a Scientific Mind." Subsequently, we decided to make "Project Field & Rice Paddy" the core educational aspect of "Project Ainosono."

### The Relationship between "Project Field & Rice Paddy" and a "Scientific Mind"

"Project Field & Rice Paddy" began in 2004 and involves approximately 550 square meters of fields adjacent to the kindergarten grounds.

#### (1) Placing Importance in Discussion

Through crop cultivation, which involves discussion with peers and repeated trial and error, "Project Field & Rice Paddy" enables the children to continue the activity with a sense of expectation. We placed particular importance in making the children consciously aware that "Project Field & Rice Paddy" was of their own working.

In "Project Field & Rice Paddy," we also paid care to discussions, including those regarding which crops to grow. The teachers did not choose the crops themselves. Instead, by prompting the children to think about "things I want to eat" and "things I want to grow," the teachers tried to give the children a sense of shared responsibility that would better enable them to start and continue the long cooperative process of crop cultivation.

Care by the teachers was given not only to planning but also to addressing questions and doubts that the children sometimes had. This was done in the form of supporting the children's discussions so that a solution could be found. We tried to allow as many children as possible to express their opinions so that they would be exposed to various opinions and thoughts rather than be overly influenced by the opinion of just one child.

At times when the children had questions, in order to let them learn how to deal with obstacles, the teachers would not answer them right away. Rather, they would listen and take in the opinions of as many children as possible, induce the children to consider the question from different perspectives, as well as pass the question on to other children.

We believe that the process of conveying the question and thought of one individual to his/her peers, and discussing and exchanging thoughts about a solution is how individual learning leads to cooperative learning. It is important that through trial and error in activities with their peers, the children experience the true satisfaction derived from completion of a task. This also results in a deeper bonding among the children.

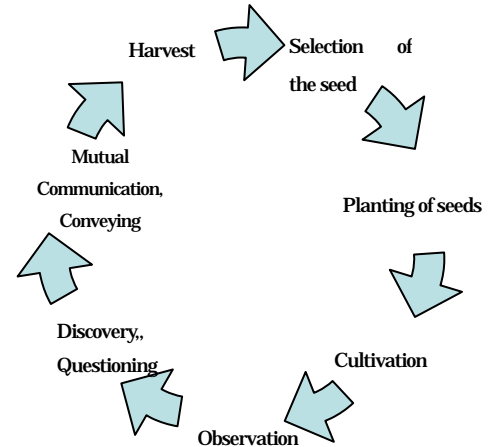
#### (2) Placing Importance in Discovery

Through this project, the children discover many different things, not only about the growth and change of vegetables and crops, but also about the living creatures inhabiting the fields and rice paddies, such as insects, and how to bear larger fruits. When children find a living creature in the fields and rice paddies, they always tell each other of the find and a discussion regarding it ensues. This is learning within the context of a relationship with others. The connection that children make with their friends in terms of intellectual curiosity is essential for cooperative learning of "a scientific mind."

#### (3) In Relation to a "Scientific Mind"

We believe that discoveries regarding the growth of crops pertain to the "realization of growth," which equals the "realization of change (or difference)." The desire to make this clearer produces a result that is observable objectively, and in turn, the nurturing of this objectivity leads to a "scientific mind."

In other words, children's "scientific mind" should not just be a simple nurturing of objectivity, but should also have an emotional element of experiencing the joy of nurturing. Consequently, a "scientific mind" should be the framework of thought to further and deepen such experiences. Duly recognizing this thinking and attitude, we believe that recognizing friends and growing cooperatively with them forms the foundation for a "scientific mind" and learning in young children and in extension, for those in elementary school and beyond.



#### Editor's comments

With the goal of nurturing "Cooperative Learning of a Scientific Mind," the whole kindergarten participated in discussions to establish "Project Ainosono." In "Project Field & Rice Paddy," the core project, the kindergarten independently developed 'Cycle of Nurture' helped the teachers plan and guide the children's activities with foresight. Questioning and guessing were valued. Encouragement was given to children to discuss and share their experiences. Purposeful repetition of this nurtured "Cooperative Learning of a Scientific Mind." The kindergarten clearly demonstrated that a "scientific mind" is based on each child's emotional experience and is borne from cooperative relationships with other children that seek to deepen such emotional experiences.