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Since childhood, I have had a deep fascination with astronomy, the cosmos, and physics. Black holes, dark matter, dark energy? whenever I come across a video with such a title, I can't help but watch it intently.

I don't possess enough knowledge to proudly call myself an expert, but the feeling of being moved when I look up at the sky remains unchanged. I still vividly remember the day I first bought a telescope with money I had saved from New Year's gifts. I immediately brought it to my grandmother's house and had her look at the surface of the moon. Watching her eyes widen at the sight of clearly defined craters somehow filled me with pride. Beyond the amount of knowledge one has, I believe the experience of *seeing* and *understanding* has the power to propel people forward.

Of course, I am not a scientist. I can't effortlessly read cutting-edge research papers; I am, in other words, an amateur who loves science. Even so, I believe the core of science lies in *attitude*. Formulating a hypothesis, testing it, observing, recording, and connecting it to the next step—this entire stance directly connects to craftsmanship. Rather than stringing together complicated technical terms, it is more important to work with your hands, test, and build upon what you learn.

There is one thing I want to say clearly here: Don't back away from science just because it *sounds difficult*. Science is not a reserved seat for special people. It's perfectly fine to start from *I don't understand*. Through small, repeated trials and errors, you move closer to *I get it*. Even in daily life, every time we change a method slightly and compare results, we are unconsciously engaging in small acts of science.

So, what do you do when you fail?
At the Makers' School, we encourage *failing early* and *failing often*. That doesn't mean recklessly diving in. What matters is failing *properly*. Preparing well, thinking logically, and working sincerely—failure that comes after such effort always carries meaning. How far did you succeed? Where did you stumble? These clues make the next step more solid. That's why I want to say this: *failure is a plus*. It is not defeat, but the raw material for victory.

A common objection is: *School education has limited years, and there's no room to let students fail over and over with the same task*. That's precisely why I created the Makers' School as a place where *intentional opportunities to fail* can be secured. Free from grade progression and uniform curricula, in a safe environment, students can test small, break small, reflect, and rebuild—repeating this cycle as many times as necessary. I believe the role of the school is to supplement the experiences often missed in formal education: stumbling with one's own hands, finding the cause, redoing it, and succeeding.

Another common belief is that *if adults step in early to help, children won't get hurt*. Of course, safety must always be the top priority. But excessive intervention robs children of the sense of *I overcame it myself*. Experiencing small failures within safe limits, reflecting on the cause, and applying it to the next attempt—this cycle cultivates self-efficacy. Protecting children from harm is not the same as depriving them of opportunities to stumble. By watching over them and limiting our support to the bare minimum necessary, children develop the sense of standing on their own two feet.

In the end, don't avoid something just because it looks difficult. Remember that failure is the seed of success. To accumulate victories means not giving up. Even if you're not an expert, even if you don't understand everything at the cutting edge, this stance is something you can practice starting today. Carefully collecting those small moments of *I got it!*—that accumulation becomes a quiet yet certain forward step.

Category

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