

Scientific Understanding and Education on River Management
in the Context of Climate Change

気候変動下における河川管理の科学的理解と教育



Chibana, the guide of the Arakawa River Tour
for Parents and Children

Takeyoshi CHIBANA
知花 武佳

To be honest, I didn't take this job because I wanted to become a "researcher", but I do this job because I wanted to be involved in "talent development," including training researchers. (It's as if I'd rather be a baseball manager than a player.) In order to educate many university students and working professionals, they need to find what I say and do "interesting". I realized that the key to achieving this is simply to focus on what I feel interesting-which, in most cases, happens to be what I'm good at-and I have continued this approach.

実は「研究者」になりたくてこの仕事をしているわけではなく、研究者を含む「人材育成」に憧れて大学教員になりました。
(野球選手ではなく監督に憧れた)そして、多くの大学生や社会人を教育するためには、彼ら彼女らが私の話ややっていることをおもしろいと思ってくれなければなりません。そしてそのために必要なのは自分が本当におもしろいと思えること(そしてそれがたいいていの場合自分の一番得意なこと)をやれば良いという単純な方法に気づき、継続してきました。

A scene from a class at a high school in Kumamoto

One of the students' comments on last year's class

“While the course content is interesting, I think what I found most appealing as a student was how much the instructor seemed to enjoy teaching the class. I hope you'll continue doing this, as I believe it will make the class even more appealing to students in the coming years.”

昨年の私の授業に対する学生からの感想の一つ

「この授業は内容の面白さもありますが、何より先生が楽しそうに授業をしていることが、学生としては特に魅力的に感じた部分だと思っています。是非ともその部分は継続していただけたら来年以降の学生にとっても魅力ある授業になると思います。」

I'm working on creating slides for 12 sessions of this course. I've completed about 800 slides, roughly 300 of which are photos I took myself while visiting the sites. At the sites, I've discovered plenty of fresh, easy-to-understand, and interesting stories.

現在、この授業12回分のスライドを作成中ですが、現状約800枚、その内約300枚は自分で現地に赴いて撮影した写真を使用。多くの現場で、新しく、わかりやすく、おもしろい説明を発見！

Photo found on the Internet (ネットの拾い物)



http://osakasalon.exblog.jp/iv/detail/index.asp?s=9104857&i=200811/30/53/e0161853_2058155.jpg

I found the location and took the photo by myself
(場所を特定して自分で撮影) @ Osaka



Photo found on the Internet (ネットの拾い物)



図 17-5 泥岩の地層に貫入する花崗岩と花崗斑岩の岩脈

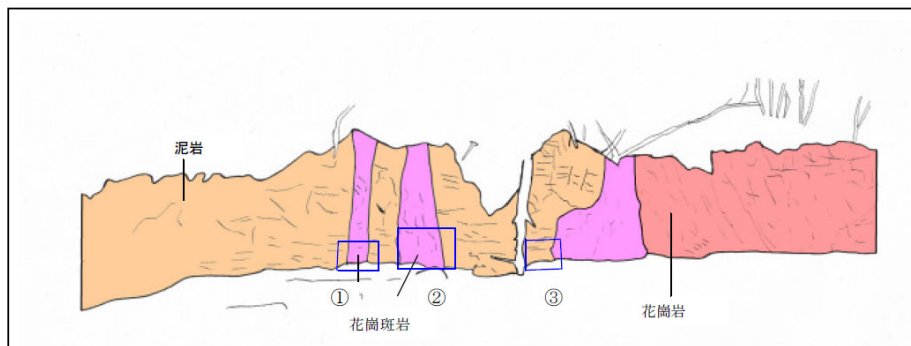


図 17-6 泥岩の地層に貫入する花崗岩と花崗斑岩の岩脈のスケッチ

広島県立教育センターウェブ (https://www.hiroshima-c.ed.jp/chisitsu/chisitsukure_files/17_takehara.pdf)

I found the location and took the photo by myself
(場所を特定して自分で撮影) @ Hiroshima



(Instead of enjoying it myself,) I take as many students
as possible out into the **field** and have them measure
things by using **the most primitive tools** available.
(自分だけ楽しまず,)できるだけ多くの学生を**現場**に連れ
て行き, **極力しょぼい道具**で何かを測ってもらう



If you don't show them how to do it, tell them about it,
let them try it, and praise them, people won't take action.

「やってみせ、言って聞かせて、させてみせ、
ほめてやらねば、人は動かじ」

By Isoroku YAMAMOTO (山本五十六)



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We can feel the signs of **climate change**, but we can't experience what the future holds, and there are no definitive answers.

気候変動の気配は感じられても、今後起こることは体験できないし、まだ確かな答えがない。

→However, **there are many people who are interested**.

ただし関心のある人は多い。

→Rather than simply teaching concepts from textbooks as we have done, we aim to **expand students' repertoire of solutions**-such as "If X happens, do Y"-and **cultivate the flexibility to make judgments based on the situation**. Teaching about the long history of our relationship with the river is one effective approach.

教科書に沿って教えるのではなく、「○ならば△すれば良い」という引き出しを増やし、状況に応じて判断できる柔軟性を培う。そのためには、川との関わりの長い歴史を教えるのも一手。

→Taking advantage of the fact that there's a lot to do, we can **teach a broad range of approaches, enabling students to engage with the subject from perspectives they find most accessible**-such as various specialized fields or subjects covered in earlier grades-so that they can gradually broaden their interests and horizons.

やらなければならないことが多いことを利用し、あらゆる専門分野、あるいは高校以前に学んだ各科目のうち、教えられる側にとって得意な見方から入れるよう、教える側は幅広く教え、徐々に彼らの関心・視野を広げさせる工夫が必要。

Thank you for listening!