

## Discovering the PSSC: A Personal Memoir

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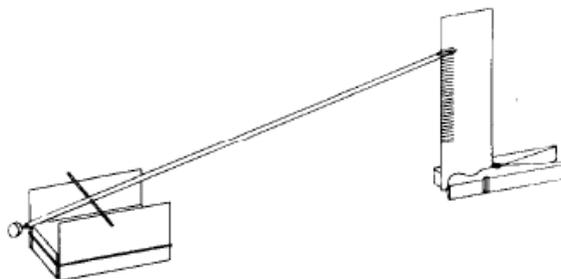
### ***Learning PSSC from Its Originators***

It wasn't my good fortune to be involved in the creation of the PSSC course, but I came aboard fairly soon afterward. I had left my teaching job in England in 1955 to join the University of South Carolina in Columbia, SC. The Physics Department there at that time had only six faculty members. I don't think we had even heard of the PSSC course when it was first launched, but in 1960 there came an invitation for me to participate in a one-week briefing workshop at M.I.T. to learn about the course as a prelude to running an academic-year Institute for South Carolina teachers at our department. It was an exciting time.



In the first place, I had never visited M.I.T. We students in the workshop – about two dozen of us, I think – were housed in one of the newer dormitories and, to the best of my recollection, all the instruction took place on campus. The briefing program was based on the assumption that at least some fraction of the participants had essentially no previous acquaintance with PSSC (certainly true for me). A typical session comprised an exposition of textual material (with its pedagogic rationale), a showing of relevant films, the discussion and the working of sample problems, and – vitally important – the actual execution of PSSC experiments. Approximately one day was devoted to each of the four main divisions of the PSSC course as it then stood. A half-day or so was set aside at the end of the week for a discussion of the mechanics of organizing and running a PSSC Institute program.

The above bare description doesn't do justice to the richness of the experience. The amount of thought and work that had gone into the creation of the course was amazing. A good example was the massive Teacher's Guide, with color-coded sections in white, yellow and green (but don't ask me now what the different categories were!). There were the brilliantly simple and original experiments. One of my top favorites was (and still is) the soda-straw balance, measuring milligrams or less with materials costing no more than a few cents. And those wonderful films! All were good physics, but some featured the stars of pedagogy: Jerrold Zacharias, Hume &



1.15 A drinking straw balance



Ivey, and Eric Rogers. One of the treats of our week was to visit the studio where these magical movies were made and see the simplicity – even crudeness – of the equipment and surroundings. Nor should one forget the splendid books in the Science Study Series, coming off the press at a remarkable rate, some of them destined to be classics. And then there were the people who had led the project. I do not remember Zacharias in this role (perhaps he was away), but I do vividly recall Francis Friedman taking the floor in stockinged feet to cap the expositions of others in his inimitable manner, and Uri Haber-Schaim presiding over the experiments with calm expertise. It all took high-school physics into a higher dimension, and was both exciting and inspiring.

### ***Teaching PSSC to Teachers***

My next role, however, was to impart these insights and motivations to a group of South Carolinian physics teachers. I came to it as someone completely sold on the excellence of PSSC and its order-of-magnitude superiority over anything previously available. Here I came into contact with some of the realities. I had advertised our academic-year institute as one that provided an introduction to a great new course. I was not very aware of the circumstances of high-school education in the USA. In particular, I did not appreciate the importance of academic credit for aspiring teachers. My program offered no such credit, and no financial inducement beyond travel expenses. The Institute was to operate all day Saturday through one academic year. It was open to teachers from anywhere within South Carolina. It was perhaps surprising that a group of about twenty teachers applied and were duly accepted. Teachers came from all corners of the state and, for the most part, loyally persisted in their attendance. The general atmosphere was sociable and cordial. But I was forced to recognize that only a few of the participants were qualified to pick up the ball and run with it (an American idiom I had belatedly acquired!). The picture of the physics teacher who was really a football coach assigned to take on this unwelcome obligation was actually fulfilled in one or two cases. But these were all worthy people – some of them simply out of their depth. I doubt that my Institute did any harm, and for a few teachers it really opened windows and inspired enthusiasm. But some of my participants were probably better off teaching a traditional course that better matched their own limitations. And this, no doubt, is what they continued to do. Was it worth the effort? Undoubtedly. But there is a Latin epigram that I learned in secondary school: “Festina lente” – “Make haste slowly”. I think it is a wise remark that it behooves us to remember.

The record shows that in 1964, four years after being a novice under instruction, I actually ran a briefing conference of my own. It was the sixth such conference. So I was the beneficiary of other people’s work over five years of such meetings. My decisions about the budgeting of time, the choice of films and experiments, even the arrangement of the social side of the conference, were helped by past experience. I had the satisfaction of seeing a group of two dozen strangers address themselves to a shared purpose and develop a temporary but quite genuine camaraderie in doing so. I could observe the growing involvement of the participants with the course, as their reserve melted away and their confidence grew. I could take pleasure in thinking that, as a result of this activity, several hundred more high-school teachers might be added to the



## **PSSC** 50 Years Later

thousands who had already been introduced to PSSC. Of course, nothing is perfect. As any teacher knows, only a fraction of what one tries to impart will be fully retained. But there is little doubt in my mind that these conferences played an indispensable role in ensuring that the PSSC program, as it became more and more widely used, would nevertheless preserve its freshness and its distinctive character.