

ONE STUDENT'S POSITIVE FEEDBACK

“What It's Like to Be a Pioneer”

Prepared
With the Support of the
Gordon Stanley Brown Fund

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September 10, 1999

Available from
The Creative Learning Exchange
1 Keefe Road
Acton, MA 01720
(978-287-0070)
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Teachers often wonder how they can convince others of the benefits of system dynamics in K-12 education. Perhaps they should let their students do the talking.

One student speaks very clearly in his correspondence with Marti Lynes, his former high school physics teacher who pioneered system dynamics at Algonquin Regional High School in Northboro, Massachusetts:

“First of all, congratulations on the [Tandy Technology Scholars] award. You definitely deserve it for your hands-on approach to teaching and the new and exciting curriculum that you bring to the classroom.

When I took my first physics course at Stanford, I found myself up against many students from private and magnet schools who had taken two years of calculus-based physics, the AP exam, and had covered more topics. Yet I found most did not possess as advanced a physics intuition as most Algonquin HS honors students do by the end of the year. While their breadth surpassed mine, they lacked enough real understanding of concepts to be able to use their knowledge on difficult exams. Your class helped me to develop not only a knowledge of physics, but an understanding and indeed an intuition. I didn’t realize the full value of this until the first exam in mechanics when I joined 3 other students in a 300+ class in acing the exam. ...I have been able to get straight A’s so far in the physics core.” ...

Two years later, this same student wrote to Mrs. Lynes from Germany:

“After studying at Stanford’s program in Berlin, I now have a six month internship developing a computer model of an airbag for Volkswagen. Trying to create a realistic computer model of an airbag reminds me of working on STELLA models of water rockets. A bit more complex, but similar principles and challenges. Another fine example of where your class was years ahead of many other high school classes.”

These words are powerful testimony on the lasting benefits of system dynamics in education for this fine student. Many other students could also express similar ideas at their own levels and in their own areas of study. Their feedback is valuable and convincing.

(For readers who would like to know more about the system dynamics water rocket lesson, Marti Lynes has carefully presented it for other teachers to try. *Soda Bottle Water Rockets: Build the Rockets and the Models* is available free on-line from the Creative Learning Exchange at <http://sysdyn.mit.edu/cle/>.)

Jay Forrester has suggested that we could speed the spread of learner-centered-learning and system dynamics in K-12 education by sharing tales of “what it’s like to be a pioneer.” It might help others who are starting out, or just curious, to know about other teachers’ experiences, positive student outcomes, pitfalls, political issues, responses of administrators and fellow teachers, student and parent feedback, triumphs and tribulations. Forrester has long experience in pioneering, first as an early inventor of the digital computer, then as the founder of system dynamics, and now as an education reformer. This paper presents just one little vignette. Please let me know (LynesD@cle.tiac.net) if you have other tales to share. Thanks.