

Home Economics As A STEM Course



By *Chuck Dinerstein, MD, MBA* — April 26, 2018



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It isn't either a big or a polished study, but it raises interesting questions; can Home Econ improve our health and better yet is Home Ec, in reality, a STEM course? First, the study - 1,158 participants in a longitudinal study of the impact of learning to cook in a high school Home Econ using self-assessment and surveys.

- 25% felt their cooking skills to be very adequate, for 56%, their skills were adequate when surveyed at age 18 to 23
- When resurveyed at 30-35 years of age those with mad skills were 3.5 times more likely to cook with vegetables most days and 2.5 times more likely to be the usual food preparer
- Those with adequate skills were more likely to be eating vegetables at least three times a week and consuming less fast food
- And for these individuals with children, family meals were more frequent; there were last fast food family meals – fewer barriers to food preparation.

Yes, you, the authors and I all know that food preparation skills being very adequate leaves a lot of room for interpretation. And they found that the self-assessment of adequate ranged from cooking from scratch to following a Blue Apron recipe or even a cake mix. So let us substitute confidence for adequate. Perhaps then it makes sense; when you have confidence in your cooking skills you may use them more frequently, and you have a broader set of techniques to use. And the literature is mixed; not all studies show cooking skills equate with better food choices. In fact, the current study showed no correlation between self-reported cooking skills and weight or availability and consumption of fruit, whole grains or soda.

Home Econ as STEM

Science, **T**echnology, **E**ngineering, and **M**ath are the skills we need to function in contemporary society. Home Econ was cast aside early for a greater emphasis on STEM courses, after all, cooking, shopping, cleaning are tasks of daily living, we do not reward them financially, and presumably, we learn by osmosis and observation.

But consider just a few of the ways cooking touches on STEM concepts:

Science – Bread and beer, both require different forms of fermentation and have a lot to teach us about microbes and are the long-standing relationship with them. Harold McGee’s classic *On Food and Cooking*, J. Kenji Lopez-Alt’s *The Food Lab: Better Home Cooking through Science* are just two guides to what is “chemistry you can eat.”

Technology – What is the best way to get heat into food? An open fire, conduction through metal or a water bath, are all options and all have associated technologies. What makes that pop-up time in the Thanksgiving turkey pop-up?

Engineering – It is an increasing distance from farm to table, especially in a global world where the blueberries come from South America to the US. How do you engineer and design the logistics for global delivery? Does global food disrupt local sources? All of these are food related engineering problems

Math – Precision in measurement is the hallmark of pastry, and all cooking is about ratios. Working from a recipe, scaling it up or down, all of these activities help to learn to work with numbers, numeracy.

There are also other essential skills to develop. How to deal with the failure of several hours of work ending up as “a hot mess.” Or how the world’s cuisines and their choice of ingredients reflect culture, geography and the resources at hand.

My point is that the skills we can learn in Home Econ are the same skills we later employ in the work we choose. My colleague, Alex Berezow has also [pointed](#) ^[2] out these skills. These are skills we can learn when we are young and have had a chance to practice and master them in the safety of our adolescence. And according to at least this one study, they may give us enough confidence in our cooking skills to cook for and eat with others – returning some of the communal sensibilities to our daily lives. There is considerable truth to the quotation ascribed to Lao Tsu, “If you give a hungry man a fish, you feed him for a day, but if you teach him how to fish, you feed him for a lifetime.”

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