

## Education and making things with lasers

Accelerate multiple skills sets by letting your child make something. Ask for an opinion on children's education and you will be inundated with theories, ideas and solutions.

Do they work? Have any of them worked? If you use the unemployment figures in South Africa as a benchmark then clearly something is not right.

It is not my intention to knock anyone's theories, but let's deal with a few truisms that will add context.

- 1) We have only been "going to work" since the industrial revolution began about 350 years ago.
- 2) South Africa's most important industrial policy is to resurrect our manufacturing capacity.
- 3) The new design economy is rushing towards us where literally everything can – and will be customised and personalised to order.
- 4) Micro manufacturing from home – which is the fusion of design and home-based precision manufacturing – is rapidly gaining mainstream traction.

A thought-provoking comment is the question posed by Elon Musk, by far South Africa's finest entrepreneurial candidate and founder of PayPal, Tesla Motors and SpaceX, who, when interviewing candidates for his companies has only a few simple questions – and this is after you have made the cut to get to the final interview (which means that you have come in the top of your class at Yale, MIT etc.): "What have you made, what were the challenges, and how did you solve them"?

These questions – and your answers – are so important to Mr Musk, because if you have not had to deal with the process from design to manufacture and all the challenges that go with it – you are essentially useless to any of his world-class companies.

Many years back, kids would play on jungle gyms and climb trees and ride their bicycles to school. With the demise of these activities Project management 101, Risk Management 101, Maintenance Training 101 and Time Management 101 ended, and were replaced by "helicopter Moms and lawnmower Dads". For example climbing a tree is a combination of risk and project management. Riding bicycles to school encouraged time management and project management, route planning and hands-on maintenance.

Fast forward to the 21<sup>st</sup> century and suddenly a host of old fashioned skills are needed again. And kids love to experiment and have a go! For those in doubt about the role of creativity in schools I urge you to look at TED Talks most popular video of all time "How schools kill creativity".

To kids, trying something new and making a mistake is nothing more than an alternative way of doing something and then celebrating it.

In essence what I am getting to is that children will learn at what they are passionate about and the vast majority want to make something. Yes to design it, select the materials, make it and then proudly give it to their Moms and Dads – for what will surely be a lifelong treasure and future heirloom.

Laser engravers allow kids to roam their minds looking for ideas, projects and things to make. But perhaps the greatest benefit of all

is that the step from creator to entrepreneur is just that – and it is progressive and comes naturally.

The list of potential products kids can make with a laser machine defies all imagination. If you are suffering from a lack of imagination and need convincing, go to Pinterest and search for laser gifts – you will be astounded. Next time you buy a sign for your child's door or a tag for your dog and anything in between – consider that it could so easily have been your child who made it.

The entrepreneurship aspect comes naturally once the making begins because materials cost money and kids rapidly learn that time is money too.

And so my last true example of the power of making something is how a R20 item at Pick n Pay brought tears to a Mom's eyes and a puffed-up chest for a grade 6 child. It was simple project. Take R20, go to Pick n Pay and buy a present (with a hint to look for a wooden item in the kitchen section). The child came back with a bamboo slotted spatula and engraved it with Mom's birthday date and a simple message. "The best Mommy in the whole world".



From R20 to infinite value – and a lifelong treasure for Mom and equally lifelong memory for the child.

Equally amazing was the simple act of taking a grade 8 group of kids and letting them make laser cut Christmas trees for their end of year school fundraising family open day. They were sold out within an hour.

And to think they were going to be another group selling cupcakes. I haven't followed up, but I am sure this lesson in entrepreneurship far exceeded all the hours spent on EMS classes.

Both true stories illustrate what is possible with experimenting, testing, refining and making – then holding it, admiring it, giving it away or selling it and then starting all over again.



And yet South Africa is spending billions of rands trying to enlarge our manufacturing capability. I have yet to see a child who doesn't want to make something. We should be encouraging it.

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