

Puzzles in Education  
Business Strategy  
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PRIVATE AND CONFIDENTIAL

For some time now I have been talking about my idea for “Puzzles in Education”. It’s a big idea, it’s a very new idea in relation to the market, and it is an idea that continues to evolve... all conditions that make it harder for the idea to succeed. And yet, it is a concept that is so powerful that it could transform our company and become the engine for our next stage of growth. I’m fully committed to making it happen, in a way that will succeed for Binary Arts/ThinkFun.

With this paper I’m going to explain the vision behind this project, the strategies we need to use to launch and build it, and the next set of tactical steps that we need to focus on as this project moves forward. I’m open to all comments and suggestions, and at the same time I now want our entire team to start to buy in to this vision and to see how to help bring it to fruition. This is an early draft, so there will be a lot of holes... my hope and expectation is that you who are reading this can help fill these holes with me.

The key to the whole program, and which makes it so difficult, is that the program has to be successfully envisioned and developed both from a business perspective and from an educational perspective. To start this paper, I’m going to focus more on the education side, and then do my best to describe how to wrap a business model around and through the education piece.

### **Background/Basics**

So let’s start with the education side basics. For many years now there has been a culture war between the enrichment advocates and the back to basics proponents in the math public education system, with about the only thing uniting them is the recognition that today’s children are not getting a good enough math education in our schools. So there is a need.

On the other hand, I think it is clear that, at least for the moment, the conservative back-to-basics camp has won the day. In addition to having severe budget constraints, schools by and large are under strict orders, by principals, superintendents and State boards of education, to focus on teaching to, and getting right, the published Standards of Learning requirements that have been set at the State level. So there is little enthusiasm for out-of-the-box enrichment programs that don’t address the need to teach to the standards.

Given this, the first thing for us to do with a “Puzzles in Education” push is to redefine this mission, to get away from puzzles and into what it is that is needed to help fix the system. And this turns out to be something that is quite straightforward to do. Let’s start

by examining the Standards of Learning, or SOLs, themselves, since they are the central focus for the educational system today.

The SOLs really aren't that bad, when you examine them closely. They require that kids have a basic facility with numbers, that they understand measurement conversions like pints to gallons, fractions and proportions, geometric figures and basic algebra functions, stepped up by grade level. Many of them also give a nod to kids becoming better problem solvers, though this is vaguely defined and varies from one State to another. The biggest problem seems to be that these requirements are seen as reductionist, so that teaching to them has to be less creative and by implication, less fun for the students. Thus starts a vicious circle, where kids lose interest in the material earlier and tend to learn less, which leads to increasing rigidity and increasing examination from above about whether teachers are focusing hard enough on the basics.

Our program needs to address this dilemma square on. The foundations that I am looking to build on are the following:

- Create a multi-faceted system, under a single conceptual umbrella, that simultaneously addresses the specific focus on SOLs and that offers an exciting new way of approaching math education
- Design the system so that it can overlay on top of an existing math curriculum, so that teachers don't have to declare that they are making changes in order to explore and start using it
- "Productize" the ideas, or design the system to come in discrete blocks that can be successfully in our normal channels of toy and gift stores
- Create a big story around the system so that we can effectively promote it into mainstream media and generate excitement around it
- Tie this vision and this program into the launching of our new ThinkFun company brand, to build the story of the philosophy of why we are changing our company name.
- Be not afraid to stretch our own business practices, whether creating alliances and partnerships to increase distribution or unusual marketing campaigns. Demonstrate creativity and uniqueness in our own actions.
- Above all, make it fun. If the products coming out of this system are good enough to sell successfully at retail, and they are seen to fulfill a genuine educational need, the market will be there for us.

### **Product Side Initiatives**

While subject to continuing evolution, the program is shaping up to have the following product look and feel:

- Product 1: Sets of visually based word problems, modeled after our successful Visual Brainstorms products. These problem sets, however, will be specifically designed to model the National Council of Teachers of Mathematics (NCTM) Content Standards, posing questions designed to make students more successful at

taking the Standards tests. The questions will use cartoons and have a funny storyline to help keep them light and fun, and will be open ended and call for discussion, so that teachers can lead short discussions with students to make sure that they understand the material. The first edition will be kept low-budget and will involve beta testing among local teachers while the concepts tune up. As the product concept evolves, it could find a market at retail between our Brainstorms cards and the Brainquest series of educational quiz cards by Workman Publishing (over 15 million sold).

- Product 2: Math Dice, a simple competitive dice rolling game that teaches computational math (understanding of adding, multiplying, etc, in one's head) like nobody's business. While I don't see this as a big seller at retail, it can be turned into a perfectly respectable \$8 or \$10 product. The real opportunity, though, will come if we can distribute it widely into school systems as a competitive math game that promotes the ThinkFun brand and the larger system that is being contemplated here. There are other products and systems out there that work successfully, and we can learn lessons from these models as well as innovate on our own.
- Product 3: Math Fairs. Unlike Math Dice and the Visual Standards cards described above, the Math Fair concept doesn't tie directly into the SOLs; except that it directly and creatively does address the more nebulous "problem solving" strand. Thus far, the "Math Fair" idea has manifested itself as our new "Brainteaser Classics" set of manipulative "Aha!" puzzles, which has been getting great reception at retail... so we know the product holds water in our normal marketing channels. From the educational side, the SNAP Mathematics foundation has been developing a Math Fair program in Alberta, Canada, which is having tremendous results in elementary and secondary schools. The founder of this program, Andy Liu, is a highly decorated professor of Mathematics and Math Education at the University of Alberta. There is every indication that ThinkFun can align ourselves with the SNAP Foundation and promote Math Fair as a breakthrough academic program that demonstrates to school children that math is fundamentally about problem solving rather than arithmetic, and also gives them a clear sense that math is fun and is relevant to their lives. The idea of Math Fair, according to the SNAP philosophy, is that students produce demonstration projects like they would at a typical Science Fair, but the demonstrations involve manipulative problem solving puzzles. In some cases, ThinkFun could produce the puzzles that students would demonstrate; in other cases, we would produce auxiliary materials and promote ourselves as sponsors of the program.
- Product 4: Math Mat Games. This product line will consist of multi-challenge brain teaser games laid out on large mats, that kids can play in groups with their bodies as well as their minds. River Crossing is a perfect vehicle for this; we can lay this game out on a 9' by 12' vinyl mat with EVA foam stumps and planks, and create a new set of challenges that require several children to cross the river as a team. Right behind it we can have a version of Lunar Lockout, perhaps with a

“King of the Hill” or “High Five” theme, where teams of children work to get their “leader” to the center of the board. Large scale problem solving games that can involve groups of children in a fun and recreational way in developing problem solving skills could have great appeal for creative teachers; and they could also draw attention to our standard versions of these games. Large games sold in colorful tubes would also be a novelty in retail toy stores as well... think new generation “Twister”, with games that call on problem solving as well as dexterity.

- Product 5: Black Board Games. Like the Standards based Visual Brainstorms variant describe in Product 1 above, this set of games may start life as marketing giveaways to teachers rather than as real products that can be sold at retail, but some of the ideas may be able to be turned into real products. The idea here is that there are a set of games that have been developed by educators over the years, that are simple to explain, are run from the front of the room by a teacher during a class period, involve small teams of students competing against each other, and that demonstrate problem solving strategies in a fun way that also opens kids’ minds up to the excitement of math. This idea is early enough that I won’t describe the games in more detail here... there is good material, though.
- Product 6: Puzzle of the Week. Once the concept of puzzles has been established as a successful means of maintaining students’ interest and improving problem solving skills, it is time to start introducing more sophisticated puzzles into the classroom. A “Puzzle of the Week” program would be one where the teacher puts out a new puzzle at the beginning of each week, that kids are invited to explore and solve on their own. To work well, we’ll need to develop a program around it to give students an incentive to want to participate; maybe a team challenge, for example. More importantly, if we are able to reach the point where we can get educators to buy into the notion that offering a new puzzle each week to their students is a valuable thing that is worth doing, we’ll have achieved a major milestone for ThinkFun... we’ll have built in demand for our new products. A Puzzle a Week is a lot of puzzles to develop!
- Product 7: Continuing stream of new puzzles and games through our normal system, with special emphasis on more “Rush Hour/River Crossing” style products. This concept isn’t meant to replace our current offerings, rather to add an overlay that builds the market and allows us to keep growing.

Some of these products can be produced as commercial products, some may be better to be developed as marketing loss leaders, and at least one of the ideas is more of a market positioning than a specific set of products at this stage. The unifying element around this program is that all these ideas can be woven into the concept of an enrichment math club or math league, elements of which can weave into a curriculum program and elements of which can be seen as fun volunteer activities for students who are interested and need to be organized.

## **Marketing Side Initiatives**

The marketing of and communications behind this program will be extremely important. Following are the main considerations as I've identified them so far:

- **Quality Product In Place:** Before this project can go anywhere, we have to have in place a first generation of products that set the stage and really wow our audience. Our Puzzle Classics do this, and will be ready by September: we need to assess what should be next out of the pipeline, and keep a focus on quality content that delivers.
- We need to develop and refine what the fundamental message is, and how to communicate it. In a nutshell, we want to revolutionize how Math is thought of in this country, and we want to do it from the inside out, by amplifying on current curriculum programs rather than trying to change anything. We believe that Math should be viewed in a new way; and our idea for this is "PS Math", which stands for "Practical Sense Math" and also for "Problem Solving Math" and "Play Smart Math". We believe that fundamental math skills have to do with making you a better decision maker and problem solver in your daily life, as a kid and as an adult. Math is in all our lives, everywhere, and we'll all be better off if we can see ourselves as competent problem solvers in life, able to see patterns and make inferences and make decisions for ourselves based on this.
- We need to sort through who our audiences are, and how to reach them. This project will address many groups, from our retail customers and consumers, to teachers, school administrators, media, charitable foundations, academics, etc. We'll need to understand how to create a message and how to get the word out in the most effective manner.
- We need to organize groups of teachers who are willing to help us develop and test these concepts in the classroom.
- We'll need to keep a clear focus on the commercial side of this endeavor, and specifically on the need for us to create these ideas into genuine products that can be pulled off the shelf and sold to customers. Some of the programs I'm describing suit themselves to being products, and some suit themselves more to being giveaways that can promote our message and our brand, but that aren't real products... they need to be separated treated differently in our development process.
- When at all possible, the project should be scalable... in other words, the elements should be designed with a "turnkey" approach that doesn't require special efforts by a dedicated staff or program director from our headquarters.
- We need to explore the idea of working with distribution partners to get the word out on the programs. There are a number of wonderful programs out in the

market now which are changing children's lives, and wonderful organizations dedicated to working with schools and with students on an after school basis. There are great possibilities for us to help spread the word on some of these programs, and in turn work with some of these organizations to help get the word out on ThinkFun and our PS Math program.

- Our internet websites, ThinkFun.com and Puzzles.com, need to carry the message of this program and be content and resource destinations for these programs as they emerge.

These ideas are still not fully formed, though they are starting to come together, and I'm counting on good comments and suggestions from friends over the next few weeks.

That's it for now. I'm glad you got this far... give this some thought, and let's discuss!

Bill Ritchie  
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