Overall observation:

Woody:

The current content is a very good start. The sequence of the words and diagrams can be changed.

As we are designing XLP, we must reveal one critical concept, “Good Products come from Good Processes.” We emphasize Process, because we care about making good products in the long term. This can be the main slogan on the cover page. More over, as Jian Nan just said, all our products and efforts at Toyhouse are not only about developing products, but also develop products that support the healthy evolution of our Processes. This is why we call this the eXtreme Learning Process.

An XLP program is designed with a pragmatic context or a main theme in mind. We want the participants to collectively focus on a concrete problem. For example, building a 3D printer-based production line, or an automated supply chain. These kind of concrete challenges will naturally drive students to become aware of multiple layers of system issues, therefore, realizing our learning objectives.

Then, XLP is a process that guides both students and instructors to improve the learning environment in a continuous improvement fashion. Instructors form a team, that should include some volunteer students to reflect the opinions of students. However, these volunteers are also considered as part of the instruction team. The benefit is that we need many people to transfer the social experience to a large student body, the best practice is to include student members in the design process as early as possible. In short, an XLP executing organization is a Learning Organization. It services are its products.

We might need to add a few more pages. We haven’t included the Layered Diagram, which is an important part of the idea. We want people to recognize that XLP introduces Fundamental Sciences, Technologies, System Thinking, and Industrialized Perspectives, and Social Judgments, all into one integrated experience. A layered diagram would definitely help.

Another thing is to show that we have many different types of programs. We have tried to deploy XLP in a variety of contexts. That includes intensive short sessions, such as the workshop of young teachers of Tsinghua, to 4-day design challenges, and even 16 week regular courses. We also show that XLP is not just about teaching, but also a series of planning activities that challenges the planners of activities to think and work hard.

Nomenclature is important. I think using the term, Challengers and Missionaries might confuse the reader. We should go back to the terms, “Instructors and Students”. This will be easily understood by readers. We will also show these two roles in the Tai Chih Diagram, showing that XLP is also a formalized Peer-to-Peer Learning approach, structurally organizes students to organize learning activities ahead of the other “students”. This is an important argument, because we need to show that more preparation would significantly improve the quality of content and delivery mechanisms.

As mentioned in the email, we should also include some content from other departments. Specifically, we need to include some inputs from 基础工业训练中心. There are some diagrams that they have, which we may reference or modify to fit our needs. In any case, please check in those images into the same directory of this GitHub data set (in the Chinese version side).

Page: 00 Cover.jpg

Original Wording: eXtreme Learning Pocess 極限學習過程

Suggestion: The picture cannot be the gate of Tsinghua anymore. This does not symbolize XLP. XLP is an eco system of learning activities. We need to find a picture that represents the liveliness of this organic approach to learning. Besides the title as shown above, we might consider add the following slogans: “Rigorously Designed, Gamified System Design Challenges” or something of this sort. “Building Teams”, “Acquiring new Skills”, “Adopt Latest Technologies”. (Find ways to place these words on the first page if adequate.) Best of all, “Product Quality Depends on its Development Processes”, as mentioned earlier. These wording definitely should be changed.

Page: 00 Coverback.jpg

Original Wording: (Keep the original wording for now.)

Suggestion: (Add pictures of these people, put their pictures in a round frame. With a smiley face. We may include some from previous data structures and database classes.)

Page: 01 page.jpg

Original Wording: (Paragraph 1: What is eXtreme Learning Process (XLP) …)

Suggestion: XLP is an ongoing-series of intensive team-based learning programs designed and organized by a network of learners. XLP strives to provide an immersive learning experience that maximally reveals ones’ collective potential by collaborating with others to create an integrative product/service within demanding schedules. Each XLP program typically divides participants into two groups of complementary learners. A group playing the role of instructors, called “Challenge Designers”(CD), that designs and organizes a “Design Challenge Program”. The other group, playing the role of students, or “eXtreme Missionaries” (XM), is responsible for finishing the designed tasks within a specified time. In other words, XLP is a recursive process that continuously improves the quality of skill training, knowledge transfer, and collaborative mechanisms for a learning institution. For institutions that are need to continue its legacy, while upgrading its knowledge asset, XLP is a systematic solution for organizational knowledge management.

Original Wording: (Paragraph 1: What would happen in XLP?…)

Suggestion: (Replaced the title by: A Typical XLP program…)

Starting from the summer of 2012, a group of 5 Challenge Designers (consists of one Professor and 4 volunteer students) prepared an XLP-based Orientation Program for 74 incoming students (eXtreme Missionaries) of the Master Program of Engineering Management at Tsinghua University. The mission is for each team of 7 students to build a fully automated supply chain system in 4 days. Each team must come up with a prototype mechatronics system, a business proposal for their product, a 15-minute presentation for investors, and a 3-minute promotional video to present their product. Besides teamwork assignments, individual students must write daily blog entries to reflect their personal learning experience. The focus of this 4-day activity incrementally shifted from technology to sales and marketing to inform the students that they must orchestrate their effort with the whole system in mind. The result of this program is not only a collection of ten creative prototypes and interesting presentations, but a unified learning experience that improved the skills and knowledge of all participants. Learning took place for both the incoming students, and the Challenge Designers. Most importantly, students realized that under demanding schedule, the speed of learning can exceed their original expectation by leaps and bounds. At the same time, it also helped Challenge Designers to practice leadership skills and demonstrated that it is possible to mobilize a group of untrained individuals to co-create a complex product in a seemingly short amount of time.

Original Wording: (Paragraph 3: A Layered Architecture of System Awareness)

Suggestion: (Add this paragraph based on a blog entry I wrote on Toyhouse, which I will place the content in the “Chinese” directory. See http://toyhouse.cc/profiles/blog/show?id=6429998%3ABlogPost%3A36738&commentId=6429998%3AComment%3A36745)

To help students become aware of the big picture. We start XLP programs by introducing technology elements to them, Let them first focus on what to do, and eventually lead to the creation of some sub-systems, such as a small robotic car or some gadget. Then, we ask them to make many or different kinds of small objects, then, put them together into something interesting. This new something is a System. Where they can quickly see the value on a different level. Third, we want them to start consider how to sell this new system to the market place. At this point, they need to become aware of the opinions of a market place, which is a social system. Then, we might ask them to use PyBossa, or other tools, to collect the opinions of a large crowd, where they must realize that opinions at large is really a kind of believe system that might be wrong, but has profound impact on how history evolves. Therefore, they will become aware of the process of “Value Judgement”. All of these must take place on top of the Physical Reality. Therefore, that is the Foundational Sciences or Physical Laws the truly governs the changes in life. All XLP programs strives to engage students to become aware of all five layers. (We need a five layered digram.)

Page: 02 page.jpg

Original Wording: (Paragraph 1: What knowledge and proficiency to deliver in XLP)

Suggestion: (First, flip the sequence of Paragraph 1 and 2. Then, replace the title by: A Holistic Picture of Knowledge Acquisition)

(Then replace the words 1. Skills, 2. Project Management … by the following)

XLP views Knowledge Acquisition as a holistic process and organizes learning activities according to this view. We first identify the skills and introduce basic knowledge to XMs, and deliver application-specific expertise and operational infrastructure to validate their learning experience. The picture denotes that we first separate knowledge into Explicit and Implicit Knowledge, which relates to different formats of instructional activities. Explicit Knowledge can be presented in lecture-based mechanisms. Implicit Knowledge usually requires a lot of personalized practice sessions or dedicated resource utilization opportunities. We generally follow these learning activity classification scheme to orchestrate XLP programs.

Original Wording: (Paragraph 2: Developing Skills and Efficiencies)

Suggestion: (Remember to flip the sequence of Paragraph 1 and 2. We first introduce what kinds of skills and abilities we want them to learn, and then, present how we categorize them. This diagram also shows what techniques or knowledge content we plan to deliver to the students. We can claim that this can be customized for different audience. Then, we can use the four quadrant division to quickly identify a training program to deliver these content knowledge in an integrative game/context.)

(Replace the title: from “Developing Skills and Efficiencies” to “Capabilities needed by modern Knowledge Workers”)

This diagram illustrates a partial list of capabilities needed in modern knowledge economy. These capabilities are arranges them in two axis in terms of technical depths and degree of generic applicability. XLP organizers will follow this diagram to identify appropriate composition of learning activities to best fit varying program context. For example, an XLP for manufacturing company may have a different composition then a media design house.

Page: 03 page.jpg

Original Wording: (Core Concept on XLP)

During the course of XLP …

Suggestion: (This page might be moved to follow “What is XLP.” The first diagram should be redrawn. It should symbolize the notion of helping all learners to focus on a concrete product. Then we will oriented the courses, the skills and the infrastructure to support the product development activity. Therefore, using rectangle diagrams might not be adequate. We want to show that everything converge into the PRODUCT. )

The core philosophy of XLP is that learning activities must be aimed at producing some final products to validate the learning result. The product can be a physical object, a repeatable service, or a set of documentation or audio/video content. That means courses; skill training activities; and infrastructures for learning should be organized around the above-mentioned products. This differs from traditional educational programs, where courses, training programs, and infrastructures are organized rather independently. In contrast, we believe that when learners and instructors are focused on a concrete goal, and relate their learning experience to a concrete product, they will be much more cognizant of their learning progress, and therefore, become more effective learners. In other words, XLP is a product-focused, or project-based pedagogical methodology.

Ideally, knowledge and skills should be reusable in many application contexts. As we observe certain individual or teams acquires certain knowledge or skill, this piece of information can be useful in other application contexts. Therefore, we monitor and control learning activities of teams and individuals into modular projects. Using a project management methodology called: ”Dynamic Project Control”(DPC), we can define the task structure of each project, and relate different projects as tasks of super projects, while recording their completion rates along a unifying timeline. This methodology allows both learners and instructors to track and observe the progress of relevant projects on many organizational levels through one common lens, the S-Curve (as shown in the digragm). For large and complex projects, collaborators can also monitor project statuses using the “Colored Daisy Tree”. These visualization methods provides a new cognitive instrument for XLP participants to see complex product development process in a coherent manner, and potentially ensure stable progress by rapidly identify the slacking sub-projects rapidly.

Page: 04 page.jpg

Original Wording: (Paragraph 1: System Development Tools)

The participants utilized …

Suggestion:

To expedite product realization cycles, XLP encourages CDs to leverage Open Sourced technologies whenever possible. For example, to expedite hardware development, we propose the use of LEGO, or LEGO-like building blocks. For electronic hardware development, we proposed the use of Arduino. Due to the fact that these open source technologies are globally recognized, the technical experience of XLP programs can be reused in other projects globally. Adopting standardized and open source technologies is a key design principal of XLP. The idea is to integrate XLP product development cycles as a part in the Open Source Movement whenever possible. So that XLP can be deployed to a wider range of audience.

Original Wording: (Paragraph 2: Network-based Learning Activities)

The core idea of XLP is realized through Web …

Suggestion:

XLP systematically introduces late-breaking network-based technologies to its participants, and tries to integrate these services onto a unified learning workflow system, currently situated in the website: http://toyhouse.cc. On top of popular search engines, we also instruct our participants to use other real-time data services and computable knowledge engine such as Wolfram|Alpha, to collect and process information through the Internet.

Since XLP program involves many team-based collaboration activities. We also require XLP participants to use Network-based Data Synchronization Services. Data Synchronization services such as DropBox and GitHub are used by both XLP instructor to design XLP programs, and they are also used by XLP students during their intensive XLP design-challenge sessions. Instruct XLP participants to better use these network-services is also a major learning objective of XLP. We believe that the skills of using network services will enable many types of team-based collaborations that were considered impossible.

Page: 05 page.jpg

Original Wording: (Title: eXtreme Learning Process in Tsinghua)

1. Master of Engineering Management …

Suggestion:

(Replace the Title to: Past XLP Activities )

In the last few years, we have been applying XLP to various types of curriculum design. It includes semester-long courses, and week-long intensive hackathon-like activities. The key ingredient is that all XLP programs are required to produce some products as the outcome within a program cycle. Use this opportunity to identify all the media assets, pictures, videos, and publications, that relates to all the following activities. Then, use them for enriching the brochure. At the same time, put these files onto the main server computer, and publish the directory structure within Toyhouse.

1. Data Structures and Algorithms, Required Undergraduate Course for Industrial Engineering Students at Tsinghua University

Product: Student produced Lectures, Video Summaries, and team-based software projects.

1. Database Concepts, Required Undergraduate Course for Industrial Engineering Students at Tsinghua University

Product: Student produced Lectures, Video Summaries, and team-based software projects.

1. Global Manufacturing Strategy, Graduate Courses for Global Manufacturing Masters Program at Tsinghua University

Product: Student produced Lectures, Video Summaries, and team-based product strategy documents, including hardware and software, or service prototypes.

1. 4-day Student Orientation Program: Master of Engineering Management, Tsinghua University

Product: Team-based product strategy documents, promotional video, fund-raising speech, hardware and software prototypes.

1. Creative Incubator: Open Wisdom Lab of CNMM at Tsinghua University

Product: Team-based product summary presentation, hardware and software prototypes.

1. An 4-day Introductory Course on Calculus at Tianjin Transportation Polytechnic

Product: Team-based learning summary speech, promotional videos, 3D printed Geometrical Objects, A multi-layered poster to summarize learning results.

1. An 1-day Maker Carnival at Beijing Petro Chemical Universiy.

Product: A social service completely conducted by students. Invited more than 500 people around China, including XiCheJian, and MakeSense from Shanghai. Displayed many existing projects, and conducted many on-site workshop during that day. The gift Check was later made into a Remote Control Aircraft.

Page: 06 page.jpg

Original Wording: (Title: Intensive Data/Information/Knowledge Exchange)

Suggestion: (“Synchronization Points Between Instructors (CDs) and Students(XMs)”)

Page: 07 page.jpg

Original Wording: (Title: Project Management)

Suggestion: (“Time Management”)

The skill to manage time is one of the most essential skill for personal or group success. Here, we have the mechanism to help people in groups learn that in depth. We use Version Control System such as GitHub, to record the incremental progression of their Work-In-Process results, precisely identify the times of their incremental progression. We also use Dynamic Project Control, to plan for the future activities or intended outcomes, that are to be created during a planned period of time. These two instruments, help people to become highly aware of time management. More importantly, provides a scalable mechanism to record and assess the performance of each team.

Original Wording: (Title: Dynamic Project Control)

Suggestion: (“A Social Learning Workflow”)

At Toyhouse, we define a mechanism to orchestrate learning activities using an Workflow Approach. Using Dynamic Project Control (DPC) as a planning mechanism. Then, we have all users register their incremental progression using Blog Entries, and Version Control Systems such as GitHub. Also students and instructors are also required to learn various information technology tools and intellectual property licensing protocols, such as Creative Common’s various icons. These infrastructural concept and elements enable teams or individuals to work as an organic whole.

Original Wording: (Title: Developer Team)

Suggestion: (“Development Team:” We should consider move this to the back cover page)

For people in Tsinghua, just use an asterisk to denote them, and put a footnote the explain what it is.

Original Wording: (Title: The Closing Ceremony)

Suggestion: (“Wrapping up the Immersive Experience”)

To fully enjoy a unique learning experience, relevant rituals and activities must be able to truly touch the hearts of the students. XLP takes great care to design stages of ceremonial mechanisms to ensure that students receives the message of the intended learning outcome:”Work Hard, Play Hard”. As shown in the picture, we are incrementally developing a series of artifacts and instruments, to ensure that students realize that their work has high potential social and economic value. More importantly, their completion of the program is worth celebrating.

Page: 08 page.jpg

Original Wording: (Title: “Website URL”)

Suggestion: (Title:“Website:” this will suffice)

In this page, we should list a set of main contributors and collaborators, most importantly, their associated organizations and their titles. For example, JP, 卢达溶, 基礎工業中心，Francois Grey, Prof. 周碩彥，Prof. 查建中，and many others. This is just like the list of prominent people in the brochure that we recently made.

Summary:

Since I added many more words, we probably will have more than 8 pages. For now, just try to fit into 8 pages. If we need more pages, just add some more pictures.

Please have the new assistants try to translate these text into Chinese, then, we can use these words in relevant Chinese documents.