

Soil - our product pedagogy model

General

At Soil, our mission is to grow better schools, here in Israel. We believe that by taking a novel and holistic approach to how schools are designed, we can now build schools that serve students, teachers, parents and admins much better; that are built for scalability and continuous improvement; and that are accessible to all.

Our product is the school itself, and we're building it from the ground up. Our school model comprises a pedagogy model, a technology model and an operations model, all working together and reflecting the full-stack approach we're taking.

The purpose of this document is to lay out the general thinking and high-level principles of our pedagogy model.

High-level goals and first principles

From a product perspective, the high-level goals and -> corresponding first principles are as follows -

1. A step function in quality to our customers/users (students, teachers, parents admins) -> a user centric approach to the product design
2. A system of continuous improvement -> a flywheel of continuous improvement, from pedagogy, through tech and all the way to ops
3. Accessibility to all students -> leveraging tech and operational excellence to offer our product at the cost of a public school in Israel

Assumptions, beliefs and takeaways

The above provides some general direction to where we're aiming, but this is still fairly generalistic. The following are the assumptions, beliefs and corresponding takeaways that are the basis of the Soil approach -

1. Our role as a school
 - a. We believe that our role as a school is to be the soil of the best possible growth journey of our students. This journey should equip students with the tools they need (1) to fulfill themselves in life, as well as (2) to become contributing members of their communities
 - b. -> In service of that purpose, our education work in building knowledge, skill sets and character assumes that the outcome of this process matters, but that a fulfilling journey matters as well

2. What the future holds -> the need for student-led learning
 - a. We assume that the future students will face will be more competitive, more will change more frequently and will be generally more unpredictable (VUCA). On the individual level, we believe that this will require students to develop themselves faster than ever before, and on a societal level - it will require us to connect more to our fellow citizens
 - b. -> Our pedagogy, apart from acquiring core knowledge, is thus centered around three learning journeys: learn to learn, learn to do and learn to be (*Acton Academy*¹). These learning journeys are meant to equip our students with the tools they need to learn independently; to be able to do things in the real world; and to build the character to sustain themselves and be contributing members to their communities. Equally important, we believe that the *only* way to *acquire* these skills is to allow students the *freedom and responsibility* to practice them. This leads us to the principle of student-led learning, which is foundational to our school model and pedagogy.
3. What we know (and don't) about education and schools -> schools as university hospitals
 - a. We believe that in the next 20 years, there's a fair chance we'll learn more about schools and education than we have in the last 200 years. On one hand, the traditional school model was developed a couple of hundreds of years ago, and the more 'modern' approach about one hundred years ago. At the same time, new technologies open the door for more personalized and real time assessment and instruction. Add to that major changes in society and the work market, and you get a generation of educators that will learn about school and education - more than any generation before it.
 - b. We should assume that - just like our students - we're learning new things about how schools can and should operate:
 - i. This means that school should not be designed as factories, rather as university hospitals, where educators master their craft, and at the same time - contribute to the research of their own field of study
 - ii. This also means that we're not religious about one method or another, rather scientific in our quest to build the best product. We're not trying to be unique or novel, and we're definitely not ashamed to adopt from existing methods. Our concern is building the best possible school product for our customers
4. Stakeholders should expect more -> when we stop treating schools as a zero sum game between stakeholders, it will stop being one
 - a. We've learned to expect a zero sum game from the school system, where we can't expect that system to do more and where when one stakeholder gains - the other loses. We believe our schools are far from an optimal operating point, and that by making the bar higher for everyone - we can have everybody gain
 - b. -> There's no free lunch at Soil: we provide a better product to students, because we demand more from them; we pay teachers more, because they work more

¹ The language 'learn to learn, learn to do, learn to be' from here on out is taken and inspired from the Acton Academy model

hours and because we're driving efficiency across the system; we invest in parents' ability to be members of the school community, because we expect more from them; we design the system for more local decision making, because we're holding admins accountable for their decisions. We can do a lot better, but this requires work.

5. In order to accelerate our own learning and allows our teams to become active contributors to the mission - we need to create a network behavior

The Soil school goals and product pillars

Taking the high-level goals we started with and the above takeaways, we arrive at the following (more specific) goals for the Soil school product (per stakeholder group) and the objectives they translate into -

	Students	Teachers	Parents	Admins.
Goals	At school, students learn to learn, learn to do, learn to be	At school, teaching is mastered and learning is researched	Schools are parents' partners in their kids' education journey	School leaders should be able to fulfill their vision
Objectives	-> High-quality, mission driven teachers	-> Fair, competitive compensation	See students	See students, teachers, parents
	-> Student-led learning	-> Professional development and growth opportunities	-> Visibility and partnership in student's learning journey	-> Tooling, training for successful ops management
	-> Broader, deeper more adaptable curriculum	-> An environment that promotes prof. excellence	-> A school that fits the life of modern working families	-> Tooling, training for successful ed management

To meet these goals/objectives, we defined the following product pillars -

- (1) A student-led learning experience

- (a) By leading their own learning processes, students learn how to learn, how to do and how to be

- (2) An org that's built for student led learning
 - (a) Smaller teams of high-quality, multi-subject teachers enable high-quality student-led learning, a more personal experience and enhance op efficiency
- (3) Embedded technology and operational excellence
 - (a) By leveraging tech and optimizing ops, we're able to drive outputs and efficiencies

Why these product pillars were chosen - goes beyond the scope of this document, but they - together with our goals, beliefs and takeaways, should shed some light into the thinking that shapes our product pedagogy model.

A school's pedagogy model vs a school product pedagogy model

Before we jump into the model, we want to highlight the careful balance between the rigid parts of the Soil school's pedagogy model and its flexible parts. While there's immense value in optimizing the core model, diversity among schools/classes/students also has a crucial role in our product: first, this diversity is part of our *offering*, as different school communities may wish to adapt parts of the model to their own vision. Second, this diversity is *exactly* what allows us to accelerate our own learning. And third, since the assumption is that we still have plenty to learn about - then the less we define - the more opportunity there is for us to improve this product.

And so, our pedagogy model at the *product level* is intentionally built as a 'skeleton pedagogy model', which includes only the core elements. We then allow considerable room for adjustment, for schools to shape the full model to fit their vision.

The choice of where to draw the line between the core elements and the flexible ones is more an art than science. We chose to include the key elements of our thinking in the core model, and tried to leave as much as possible to be defined later.

Our description below refers to this pedagogy skeleton/product model, and any complementary elements will need to be added when we approach defining a specific school.

The Soil product pedagogy model

1. Who
 - a. Every single member in the Soil community (student, teacher, parent and admin) makes a choice to be part of that community and commits to Soil's (or the school's) vision and approach. These elements of *choice* and *commitment* are integral parts of the model, and represent the free choice of our members and their responsibility to that community.
 - b. The student

- i. A student will not be academically screened, but they will need to choose to join and commit to our vision/approach and will have to be available to make the journey
 - c. The teacher
 - i. A teacher will need to choose to join and commit to our vision/approach
 - ii. A teacher will serve as a guide and mentor to the students in their learning journey, not as a source of knowledge
 - iii. Teachers will be selected and trained, and are expected to continue their professional development within the school
 - d. The parent
 - i. A parent will need to choose to join and commit to our vision/approach
 - e. The administrator
 - i. The admin will need to choose to join and commit to our vision/approach
 - ii. The admin will take ownership of implementing this vision/approach, and will receive the tools to be successful
 - iii. —
- 2. What we learn
 - a. Curriculum
 - i. It's important to note that in student-led learning, since a key learning goal is learning to learn/do/be, the curriculum is not limited to the material covered, rather includes the skills sets and values as well
 - ii. With that said, in order to simplify things, in this section we will focus on knowledge curriculum only
 - iii. Core (knowledge) curriculum will be defined as 50% of the standard public curriculum (Misrad Ha-chinuch) and these elements will be taught to mastery (in addition, our core curriculum will include materials that aren't part of the standard public requirements, but are important for students going forward: logic, economics/finance, etc.)
 - 1. Our philosophy is that there *are* core elements in the standard public curriculum that do need to be mastered, as well as others that are not included in this standard.
 - 2. At the same time, we do believe that in order to nurture curiosity and to make the learning journey more fulfilling - we need to allow more room for students to pursue their own interests. Student-led learning allows us this degree of freedom, and we believe this approach serves the vision of the school and benefits all stakeholders.
- 3. How we learn / pedagogy
 - a. Learn to be (character and values)
 - i. What we learn (core values and character)
 - 1. Kindness and respect to others
 - 2. Responsibility
 - 3. Excellence as a way of life
 - ii. How we learn it

1. Practice, practice, practice: the entire school model is built around (learning and other) activities that are designed so that students learn the importance of values, by experiencing them in life
 - a. For example: we allow students to take responsibility for certain activities (clean up, writing the studio rules, trip planning, etc.), and then hold them accountable for them. If they do a good job - they will see the reward, and if they don't - they will experience the cost associated with not meeting their commitments.
- b. Learn to do (skill sets)
 - i. What we learn (core skills)
 1. Social and emotional skills
 2. English: writing, reading and conversation skills
 3. Team work
 4. Self management
 5. Presentation, debating and self-expression
 6. Tech related skills
 7. ...
 - ii. How we learn it
 1. Practice, practice, practice: the entire school model is built around (learning and other) activities that are designed so that students learn these skill sets, but practicing them in real life
 - a. For example: learning is (gradually but predominantly) done in English, teams are responsible for carrying out certain tasks, students are assessed by their presentation, etc.
- c. Learn to learn (learning skills)
 - i. What we learn
 1. (Curriculum: see above)
 2. Goal setting
 3. Strategy and planning
 4. Self and process management
 5. Self-learning / group learning / peer learning
 6. Critical thinking
 7. Self assessment
 8. Lessons learned
 - ii. How we learn it
 1. Ample time for self work, accompanied by teachers that serve as guides/mentors to students for assessment/feedback/reflection
 2. Allowing different methods for learning: self learning, group learning, peer learning, project based learning, internships, etc.
 3. Tech tools that support instruction and assessment
 4. Mastery learning

5. Freedom to explore beyond the required curriculum to nurture curiosity and excellence
 6. English based learning in some/most subjects
4. Assessment
 - a. The assessment is first and foremost carried out by the teacher, who is responsible for it. Teachers now have the ability to approach individual students and gain a more personalized view of where students are in their learning journey and more generally - in their life journey
 - i. The main method for teacher assessment is through conversations and feedback
 - ii. Other methods of assessments include: presentations, projects, interviews, real-life work
 - iii. Standardized tests are part of our assessment tool set, but they viewed not as an objective, rather a key result of a successful process
 - b. Our teacher assessment is then assisted by technology. This allows personalized, seamless, and real-time understanding of where students are, and is meant to serve the teacher in their assessment efforts (this is a pivotal element in the tech stack, given the complexity of management in student-led learning)
 5. Where we learn
 - a. The physical environment required for the Soil school - TBD
 6. What this looks like
 - a. A year in a life
 - i. Length: 42 weeks of school, allowing more consistency for students (and a more balanced school year compared to working parents)
 1. 4 weeks of summer vacation
 2. 1 week of Passover vacation
 3. No Hanukkah vacation
 - ii. Structure: school year is split into 6 mini-semesters
 1. Each semester focuses on different areas
 - iii. 5-day school week
 1. Sun-Thu
 2. One day per week is spent on out-of-school learning (for older students)
 - b. A day in a life for a class
 - i. Length: 8 hour school day, 08:00 - 16:00
 1. 50% spent on learning knowledge in class/studio (through learning, doing, being)
 2. 50% on other activities: extended breaks, PE, social activities, extra curricular activities, etc.
 - ii. Structure
 1. A school day will include assembly of the class 3 (TBD) times/day for group discussions, guidance, etc. The rest of the time will be spent on self/group work
 - iii. Day-in-a-life example (Acton's use case)

1. 08:00-08:30 - Free time
2. 08:30-08:45 - Morning launch
3. 08:45-09:00 - Team building activity
4. 09:00-11:00 - Core skills time (reading/math)
5. 11:00-11:15 - Clean up and organize work
6. 11:15-11:30 - Group discussion, reflection
7. 11:30-12:00 - Lunch
8. 12:00-12:15 - Lunch cleanup
9. 12:15-12:45 - Free time, no tech
10. 12:45-14:45 - Project time: entrepreneurship
11. 14:45-15:00 - Studio maintenance
12. 15:00-15:15 - Closing group

Reference models

As mentioned, our approach to creating our pedagogy model is a scientific one. This means that beyond our own development process, we're not shy to adopt elements from other school models, and we're not limiting ourselves to any one model.

In that context, we believe it be useful to understand where we draw our inspirations from and where we differ from other models. The following are the key reference models we used in our design process

- The Montessori method
- The Waldorf method
- Acton Academy
- Summit Schools
- High-tech High
- Agora
- Kipp

How this works with the technology and operations models

The following table lists the key relationships between our product pillars and the pedagogy, technology and ops models and how they contribute to each pillar -

Product pillar	Opportunities	Pedagogy model requirements	Technology model requirements	Operations model requirements

Student-led, personalized, mastery-based learning	Learning to learn/do/be; higher efficacy, efficiency; better assessment and higher ops flexibility	Trained staff, parents' coop, phy environment, technology	Learning mng/instruction /assessment tools and IT infrastructure	Physical environment, pedagogy mng resources
Small, high-quality staff	Enablement of student-led learning; ops flexibility and efficiency	Training for guidance, training for multiple subjects	Learning mng tools, training tools	Hiring & comp, training resources
Tech & Op excellence	Economic sustainability; ops flexibility, efficiency	Learning and training execution	Learning/Operations mng tools	Ops management resources

This table clarifies how our pedagogy model serves our product pillars and the dependencies this model has with respect to the other models, specifically - the tech tools required for student-led learning (in learning management, assessment and instruction) and the operational flexibility (and tools) required to build the staff.

Risk/opportunity analysis

Risk/opp	Description	Probability	Severity	Mitigation
"It's a mess!" / "Nobody's learning!"	Student led learning can lead to challenges in management of learning process			Pedagogy/ops models need to allow sufficient time learning management, tech tools need to assist and augment the teacher
Work overload -> low quality of work	Student led learning creates work overload on teachers, lowering the work			Reduce non-pedagogy workload on teachers; augment

	quality of students and teachers			teachers and automate some of the work using tech
Managing the balance between freedom and management	Student led learning creates a tension between allowing students take ownership of the process, and teacher supervision that can help make those processes more effective			Invest in seamless, real time, personal assessment, leveraging technology

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