The founder of the Shad Valley (Ontario, Canada) summer program for gifted teenagers in 1984 suggests that the current selection process may not be adequate and fails to encourage applications from some students who would profit from the program. The program is seen to provide direct benefits to the universities that host the program, the sponsoring companies, society at large, parents of students, and Shad Valley students. Unfortunately, however, attending Shad Valley is often seen by students as the "ultimate merit badge" to which students automatically apply because it is expected of them. Students attending the program are classified into a broad range of categories such as "balanced achievers," "terminally quiet," "attitude problems," and "surprise packages." It is suggested that some form of major hurdle beyond the normal application process be instituted. Such a challenge would change each year and involve presentation skills. Examples are given of questions to which students would respond on a brief audiotape. (DB)
Who Benefits Most from Shad Valley?

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Abstract

Since 1981, the Canadian Centre for Creative Technology (1) in Waterloo, Ontario has run the Shad Valley summer program for gifted teenagers. This widely-acclaimed, one month "science/business camp" is sponsored by industry, and now involves upwards of 400 students every summer. They study key disciplines in science, mathematics, and technology and also receive a grounding in business and entrepreneurship, in groups of 50 each at eight University campuses across Canada. Shad Valley is not a place, it is a state of mind.

According to its organizers, Shad Valley is directed at "the upper 2% of grade 11 and 12 students nationwide, particularly those who are gifted in science and technology." This loosely defined target is operationally selected by an application form which is completed by prospective students and then ranked by academic staff members who teach in the program nationwide.

Having launched the Shad Valley program in Calgary in 1984, and taught in it every year since, I have developed some concerns about the adequacy of this selection process. While we are certainly getting many excellent students, we also seem to be getting some who are there primarily because Shad Valley has become "the ultimate merit badge," something that looks good on your resume and college applications. This violates the original spirit of the program, which involved getting adventurous young people together for a motivational as well as an academic experience. And we are undoubtedly missing some wonderful students who should be in the program. Some suggestions are made for getting Shad Valley back to its core values.

Shad Valley -- Who Benefits?

There are a number of groups that benefit from Shad Valley, directly or indirectly:

- The Universities that host the program are able to show off their personnel and facilities to top high school students. Since Shad Valley was founded, several other programs (e.g. the recruiting activities of the University of Waterloo; the Computer Science research days) have arisen to achieve a similar goal.

- The Sponsoring Companies get: an enthusiastic summer employee; a potential future employee; a better trained labor force, in touch with the real needs of industry.
- Society at large gains because of the motivational effects of Shad Valley on students who are already identified as Gifted and Talented.

- Parents of "Shads" have a high quality, low cost way to occupy a key summer in their teenager's development. There is also the potential for travel and for a meaningful summer job for the balance of the summer.

and of course,

- The Shad Valley Students get a very significant summer experience, at a key point in their development. Shad Valley is often a key life event, allowing them to break out of a "gifted shell" (2) and to enjoy the company of young people with similar abilities and attitudes.

But...Is Shad Valley Reaching the "Right" Students?

Of course, we have to define the kind of students we are seeking. Although I joined the Shad Valley program three years after its inception, I have had some contact with the "original" 1981 Shads. During that year, the program was not run on a University campus. It was held at a private school (St. Andrews) in Aurora, Ontario. Instead of the nationwide recruiting process, students were identified on an informal, almost word-of-mouth basis. The financial viability of the program was far from assured. And, something that would never be tolerated now, students "came and went" to some extent during the program. My impression is that, while there were many bright people at Shad 1981, they were not necessarily identified as high achievers in the school setting. What united them was an adventurous spirit and the willingness to try something risky and different. Several were "mavericks" who came to Shad because it sounded interesting and was NOT part of the school establishment. And a number have pursued unusual career paths, such as starting their own companies instead of going to college.

Shad Valley is still outside the mainstream of the high school system in that it is run by an independent non-profit corporation and takes place on University campuses. However, over the years, many links have been made to schools, teachers, and counsellors which have tended to "institutionalize" and "legitimize" Shad Valley. For example, each student is now expected to submit a principal's recommendation and these are weighted heavily in the selection process. It is far more difficult for a gifted "outsider" to make it through the 1992 screening process than it was a decade ago.

A key concern expressed by thoughtful program staff and "Shad survivors" (the name applied to graduates of the program) is that Shad has become a sort of "ultimate merit badge," -- something that students automatically apply to in grade 11, partly from interest, but also because it is "expected of them." While this is not prima facie bad, it does tend to attract a different kind of student, and the Shads from the earliest programs, who feel they were taking a risk in going to Shad Valley, tend to look down on the current crop for this reason.
The Application Process

The primary tool for selection of Shad Valley student is the application form, available from the Canadian Centre for Creative Technology (see note 1) each Fall. Along with teacher and principal assessments, and any supplementary materials (such as copies of awards that students may submit, testimonial letters, etc.) the application forms go to at least four readers who are members of the nationwide program faculty. These are primarily University professors and graduate students with expertise in a scientific or business discipline, but usually no formal training in education. The applications are ranked in batches and the reader rankings combined to yield a position number for each applicant. Students below "the cut" are told that they will not be considered further. Students who fall above the cut are offered to sponsoring companies for consideration. If a student receives a sponsorship, he or she attends the program for the sponsored fee ($700 in 1992). Students who are not sponsored but who are above the cut are offered places in the program at the unsponsored (but still subsidized) fee ($1750 in 1992).

(In the SAGE seminar presentation, attendees were invited to complete part of a Shad application to appreciate the process and to be able to comment intelligently on it in later discussion.)

Subtypes of Shads: 1992 edition

Shad Valley students are themselves a highly selected subgroup of Canadian young people. They almost invariably have high marks, significant extra-curricular involvement and other achievements that indicate a "creative spark." But when they arrive at Shad, it is quickly apparent that the group is far from homogenous. Based on my personal experience over nine Shad programs, I would like to venture some characterizations. These were first presented at the 1991 Shad Valley Program Directors' Meeting and met with a general sense of recognition and approval on the part of staff from other programs, so I believe they are not idiosyncratic to the Calgary program. The subtitles are just for fun, so don't take them too seriously!

Type A: The Balanced Achievers ("Honey, I Ran the School")

These are students with high marks, excellent activities, often athletic teams. We're starting to see "dynasties" with two and even three siblings attending Shad Valley in various years. These students would probably do well anyway, but Shad Valley gives them extra challenge and motivation.

Type B: The Unbalanced Achievers ("Can You Say Nerd Camp?")

These students tend to excel in one subject (often math or computers) and to concentrate their attention on it to an almost unhealthy degree. Shad Valley often has a tremendous influence on them, since it forces them to become broader. Just writing a great computer
program won't satisfy the demands of Shad Valley. To achieve the goals laid out for them, students must learn to work with a team, do presentations, and even participate in things like aerobics. So these students are:

a) forced to try things outside their "pet area"
b) gently humbled because they don't do these things so well
c) put in a supportive environment where participation and trying your best is valued

The social aspects of Shad Valley often work a remarkable personality change on Type B students. They also tend to become the program's greatest boosters, since it meant so much to them.

Type C: The Terminally Quiet ("What kind of books do I like? Well, whatever my father tells me to read."

Often female, often of Oriental background (though these stereotypes certainly don't hold universally,) these students are bright and accomplished but do not want to share their gifts too openly. In structured situations (a test, a piano competition) they shine, but in everyday activities they hold back and hardly contribute at all. In many cases, I have the feeling that they are behaving in a way which is indeed appropriate for their family and cultural expectations. However, in the freewheeling, try-almost-anything atmosphere of Shad Valley, they seem to stay on the margin. This causes great distress to some of the staff, particularly the junior ones, who feel obliged to pull them into activities. I am sure that Shad Valley was meaningful to many of these students, but it would be hard to tell from the things they say or do.

Type D: The Mistakes ("How Did They Get In?")

These are the cases where the application process clearly failed. Either they're over their heads or they have some overwhelming problem which prevents them from "getting into" the Shad experience. It's poor form to send them home (assuming they behave) but the month is mainly a social experience for them.

Type E: Attitude Problems ("I Really Don't Want to be Here.")

Very rare. I've only met three of these in nine years. Two were sent home. The other should have been. It isn't fair to the rest of the group to devote extra resources to such a person if they honestly want to be somewhere else.

Type F: The Surprise Packages (!!!)

Notwithstanding all the above, there are always a few Shads who really surprise us either by achieving way above what we expected from the application, or by looking good "on paper" but being disappointing in reality.
A Modest Proposal for Improving the Selection Process

To increase the flow of excellent students I have proposed that we institute some sort of "Major Hurdle" to getting into Shad Valley. The lengthy application form used to be one, but now, in many schools, there are teachers and counsellors who will help with the paperwork. We have even seen applications typed by the school secretary! Also, there are undoubtedly files of old applications (certainly for Shad siblings!) In any case, I would like to see a challenge that changes every year, and involves presentation skills. Ideally, of course, we'd love to interview the students, but the logistics seem to prevent that. So, here's the next best thing:

We concoct an annual set of problems or questions that the students will find challenging, stimulating, interesting, and difficulty to answer in a few sentences. Then we ask them to present their answers on a brief audiotape to be submitted with their application. For example:

IN TWO MINUTES OF TAPE, TELL US YOUR BEST ANSWER TO EACH QUESTION:

1. Why are black holes "black"?

Saying they suck up light is a poor answer. Discussing photons is a little better. Using concepts like "event horizon" correctly will earn higher marks.

2. Can a computer think?

Again, we're looking for depth and concepts like the Turing Test and Neural Networks. We mark them down for simplistic arguments.

We need to avoid questions like "How can a curve's fractal dimension exceed 1" which are interesting but can be answered by copying an answer from a library book. Side benefits of this process would include the ability to assess how hard the student will work (weeks out types D and F) and learn something about their social/communication skills (to detect Type Cs and at least make sure we don't fill the program with them!)

I have proposed that this selection procedure be used on a trial basis for the selection of Shad students. I believe it will restore some of the "core values" of the program.

Notes
(1) Canadian Centre for Creative Technology, 8 Young Street East, Waterloo, ON N2J 2L3 (519) 884-8844

(2) Keenan, T.P., "How Shad Valley Cracks the 'Gifted Shell'," SAGE Conference, Calgary, 1990