Human Development 2005;48:327-349

DOI: 10.1159/000088251



The Development of Strategic Thinking: Learning to Impact Human Systems in a **Youth Activism Program**

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Key Words

Action theory • Adolescent cognitive development • Development of agency • Empowerment • Planning • Political socialization • Positive youth development • Pragmatic reasoning • Strategic thinking • Youth activism

Abstract

Human systems, including institutional systems and informal social networks, are a major arena of modern life. We argue that distinct forms of pragmatic reasoning or 'strategic thinking' are required to exercise agency within such systems. This article explores the development of strategic thinking in a youth activism program in which young people worked for social change. These youth came to understand different human systems, the school board, teachers, and students, and they learned to employ three strategic modes of reasoning: seeking strategic information, framing communications to the audience, and sequential contingency thinking. Although youth described themselves as agents of their development, adults played important roles in supporting their experience of a cycle of experiential learning. These findings suggest how the new cognitive potentials of adolescence allow youth to develop modes of reasoning that expand their capacity to exercise agency over a longer arc of time and across a wider interpersonal space.

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An earlier version of this paper was presented at the meetings of the Society for Research on Adolescence, Baltimore, Md., March 12, 2004.

No one, these days, can avoid contact with systems. Systems are everywhere: big systems, little systems, systems mechanical and electronic, and those special systems that consist of organized associations of people. In self-defense we must learn to live with systems, to control them lest they control us.

J. Gall, The systems bible.

Walker, MN: General Systematics Press, 2002, p. 2.

The young people in Generation Y, a civic activism program in Chicago, had determined that the city's public high schools often suspended students for minor offenses, such as being late for class, bringing a cell phone to school, and even for laughing in class. They wanted to meet with the school system's CEO to advocate for adherence to the district's Uniform Disciplinary Code, which recommend more limited punishments for minor offences. Yet the CEO was a very busy person, and there was a phalanx of lower level administrators and secretaries who made direct access to him difficult. Even if they were to reach him (as they eventually did), there was the question of what to say that could persuade him to get the schools to follow the district policies.

This type of problem – how to effectively impact a human system – is important but rarely researched by developmental cognitive psychology. Unlike the planning and problem tasks that are typically studied, which involve problems with inanimate objects (e.g., the Tower of Hanoi), this type of problem requires thinking strategically about systems consisting of human actors. Within the domain 'human systems' we include institutional systems and informal networks, as well as individual actors within these higher order systems. Human systems follow complex interpersonal and organizational protocols, are animated by human intentions, and are often resistant to change. Exercising agency within human system frequently requires dealing with multiple individuals or groups, who may have differing motives, perspectives, and modus operandi. At their worst, human systems exhibit paradoxical 'systemantics,' such as Murphy's Law, the Peter Principle, and Catch 22s [Gall, 2002]. To pursue a goal or carry out a plan that involves human systems requires pragmatic, means-ends thinking that takes into account these properties: what we will call 'strategic thinking.'

Youth's development of strategic thinking is important to them as individuals and to society. In both their private and public lives, individuals need the ability to be agentic: to organize their effort in pursuit of goals, many involving human systems [Dreher & Oerter, 1987; Larson, 2000]. The 'high-performance' economy of the 21st century demands employees and entrepreneurs with skills for planning and problem-solving within organizational environments – people who can innovate, carry out initiatives, and create effective solutions to problems while working with diverse people and institutional systems [SCANS, 1991]. Furthermore, progress toward a more just and well-functioning society requires activists, social entrepreneurs, and members of organizations and government who have the strategic skills to address the injustices, corruption, and inequalities of opportunity that permeate the modern world.

To explore the development of this form of agency, we present a case study of a group of young people who learned advanced modes of strategic thinking. The Hispanic and African-American youth in Generation Y gained abilities for gather-

ing strategic information, rallying other youth, getting the attention of school administrators, and effecting change in their school system. The skills they developed transferred to other domains of their lives, such as their schoolwork and planning for their futures. We provide an in-depth analysis of this example to formulate preliminary ideas about the ontogenesis of strategic thinking. Our objective is to understand the modes of thinking these youth developed and the role of this informal learning context in facilitating their development.

Conceptualizing the Development of Strategic Thinking

Planning, Goal Pursuit, and Cognitive Development in Adolescence

To gain groundwork for our inquiry, we drew on three literatures, beginning with research on cognitive development. Impacting human systems can be seen as a form of planning or goal-directed behavior. Laboratory studies show that planning involves the integration of multiple competencies, from problem representation to foresight to self-regulation [Friedman & Scholnick, 1997]. Although there is limited developmental research on planning involving human systems [Goodnow, 1987; Rogoff, Baker-Sennett, & Matusov, 1994], it is recognized that goaldirected behavior outside the laboratory is more likely to involve ill-structured and open-ended problems. In real-world planning, obstacles are likely to arise during the implementation of the plan and the goals themselves may change. Therefore, pursuit of goals in real life, including goals that involve human systems, may depend less on an initial plan than on use of flexible and heuristic strategies adapted to the context [Dreher & Oerter, 1987; Rogoff et al., 1994; Pretz, Naples, & Sternberg, 2003; Scholnick & Friedman, 1987]. Strategic skills for impacting human systems can be expected to entail this kind of flexible and contingent thinking.

This literature also provides beginning clues regarding the development of strategic thinking. Researchers find that children develop skills for: organizing the steps of a simple plan into a sequence, anticipating contingencies, and considering alternate courses of action [Friedman & Scholnick, 1997; Gauvain & Perez, in press]. However, at the beginning of adolescence – the age period at which most planning research stops – young people show difficulties with rudimentary elements of planning and have limited capabilities to develop plans that involve a large number of separate components or actors [Gauvain & Perez, in press; Kreitler & Kreitler, 1987; Pea & Hawkins, 1987].

Although less is known about the development of planning in adolescence, general theory and research on cognitive development suggest changes in abilities that might facilitate strategic thinking:

- First, adolescents become able to think about systems. Mascolo, Fischer, & Neimeyer [1999] theorize that it is mid-adolescence before youth are able to understand complex systems (such as human systems), and late adolescence before they are able to think about the coordination of actions that involve multiple complex systems or actors.
- Second, adolescents develop new capabilities to understand the thoughts, emotions, and intentions of others [Selman, 1980], and become better able to conceive

strategies to influence others that are adapted to the others' ways of thinking [Selman, 2003].

- Third, adolescents become able to think more abstractly about the temporal and causal ordering of human events. For example, it is mid-adolescence before most youth are able to reason about how events and experiences depicted in a story (including their own life story) are related to changes in the story's protagonists [Chandler, Lalonde, Sokol, & Hallett, 2003; Habermas & Bluck, 2000]. This capacity to understand processes of human change might facilitate teens' development of abilities to *produce* change in human systems.
- Fourth, adolescent develop increased integration and coordination of these and other cognitive tools. Keating [2004] describes the growth of executive functions possibly related with maturation of the prefrontal cortex. Adolescents develop more conscious metacognitive and metastrategic control of diverse forms of pragmatic reasoning, including long-range planning, self-evaluation, and self-regulation.

Adolescence, then, is a period when youth gain access to new cognitive tools that could potentially contribute to development of strategic thinking. The important caveat from developmental research, however, is that acquisition of new cognitive tools, including those for planning, problem-solving, and executive control, is highly dependent on a person's experience in the particular domain of cognition [Friedman & Scholnick, 1997; Gauvain, 2001; a parallel relationship is found between experience and brain development in Shonkoff & Phillips, 2000]. Adolescents' learning to think strategically about human systems, then, is likely to be related less to their age than to their experience in the pertinent domain.

Political Socialization

The most relevant domain for this inquiry is institutional, civic and political systems. The literature on political socialization shows that adolescents' knowledge of civic and political systems is generally superficial and not action oriented [Tourney-Purta, Lehmann, Oswald, & Schultz, 2001]. Civics education in the USA and other nations typically focuses on learning basic facts and formal processes of government, particularly federal government, and is teacher-driven. Students are rarely instructed about the real-world processes whereby governmental decisions are made and how citizens and interest groups influence these decisions, nor are they given direct experiences in these political processes. The great majority of youth are not obtaining the knowledge base that would allow them to develop strategic skills to effect institutional change [Hahn, 1998; Niemi & Junn, 1998; Tourney-Purta et al., 2001].

A number of scholars contend that participation in service or political activities is a more powerful means than schooling for youth to develop knowledge, commitment, and skills to create institutional change. Youniss, McLellan, & Yates [1997] theorize that direct participation leads young people to internalize the practices of civic action. Ginwright & Cammarota [2002] report that immersion in community problem-solving helps urban youth develop strategies to make these institutions responsive to their needs. Watts, Williams, & Jagers [2003] found that young adult African-American activists reported developing 'social change schemata' from their experiences. What is missing from this literature is empirical evidence

articulating what these schemata are. What are the underlying modes of strategic thinking that young people develop from these types of experiences, and how are they learned?

Youth Development Programs

Youth programs, it is contended, can be fertile contexts for adolescents to develop skills to effect change, including change within human systems [Irby, Ferber, & Pittman, 2001]. Larson [2000] found that youth report higher average levels of attention and motivation in youth programs than in other parts of their lives, conditions that might facilitate development of agency and initiative. Consistent with this, Heath [1998, 1999] found that youth in effective programs developed a vocabulary for planning, working toward goals, and working with institutional systems. This included use of 'if-then' linguistic constructions, scenario building, and mental state verbs that deal with situational contingencies. The youth in Heath's research also learned to use varied registers and voices, for example, adapting appropriate language to communicate with a reporter or an adult. These changes in vocabulary and voice suggest new modes of strategic thinking.

Our research has been aimed at understanding how youth develop agency, including skills for strategic thinking, within youth programs. In a preliminary survey, we found teens to report higher rates of learning experiences related to problem-solving, time management, and goal-setting in youth programs than they reported during schoolwork or with their friends [Hansen, Larson, & Dworkin, 2003]. In a new program of qualitative research we are generating grounded theory about how these types of experiences lead to the development of strategic skills. In a first case study, we carried out longitudinal interviews and observations of high-school youth in a rural FFA¹ program over a period when they were planning a 2½ day camp for 4th graders [Larson, Hansen, & Walker, in press]. The data showed a process in which the FFA youth developed basic planning concepts from their experience. They described progressively coming to understand the relationship their effort and what they achieved; they also came to think of future time (the days and weeks ahead) as an arena for organizing this effort. Much of the learning they reported, like these basic insights, dealt with personal self-regulation (close to what Corno [2000] calls 'volition'). Contrary to our expectations, the FFA youth did not describe learning how to organize the strategic steps of a planning process, nor did they report learning much about working with human systems, except their own internal team processes.

Youth activist programs, we predicted, would be a promising context for observing development of strategic thinking. These programs engage youth in trying to change community systems; they bring youth into contact with the challenges, obstacles, and systemantics of human institutional behavior. At the same time, they provide a favorable environment of relationships, norms, and support [Lewis-

¹ FFA formerly stood for Future Far called the National FFA Organization.	mers of America,	but the national	association is no	w simply

Charp, Yu, Sengouvanh, & Lacoe, 2003] that may help youth learn strategies to surmount these challenges [Ginwright & Cammarota, 2002; Youniss et al., 1997]. Our primary goal in this study is to explore the modes of thinking youth developed through their experiences in one program, a program which had been recommended to us as highly effective. We also explore the role of the program in supporting this developmental process. This article, then, is an inquiry into situated development within a context that we expected to be rich in developmental change. Although we focus on changes in the youth, it should be kept in mind that the goal of many youth civic action programs is not solely (or even primarily) developmental change but rather community and institutional change [Lewis et al., 2003].

Generation Y

A recruitment flyer used by Generation Y shows an ethnically diverse group of smiling youth with fists raised in the air. In bold letters, the flier says: 'Educate. Organize. Take action. Be heard. Make change.' Generation Y is a social activist program concerned with educational justice and equal rights for youth. Like other youth organizing programs described by Lewis et al. [2003], it seeks to engage youth in a process of self-development and social change, primarily through youthled actions aimed at addressing problems that are directly relevant to them.

The youth in the flyer stand in front of their one-story cinder-block building, which also houses other youth and community development programs run by their small grassroots parent organization. Most of the teens in Youth Action are Hispanic and African-American, reflecting the make up of the surrounding working class neighborhoods. Jason Massad,² the young adult Lead Organizer of Generation Y, was also working to recruit Arab youth from the neighborhood to help counteract the climate of fear and isolation in the Arab community that followed September 11, 2001. Many youth joined the program because participation fulfilled their 40-hour high school service requirement, though some youth continued in the program long beyond the needed hours because they became engaged by the program's mission [Pearce, 2003].

During the 4-month period of our research, a core group of 20–25 Generation Y members carried out several projects and action campaigns. They:

- Organized a Youth Summit in which 300 youth from across the city took part in workshops on social issues and discussed educational reform.
- Lobbied the Chicago School Board and state legislators on school funding, school overcrowding, and the city schools' zero tolerance policy.
- Worked to get a new college preparation program into the city schools.
- Organized a rally to protest a new school exam that was being introduced by the school board.

The youth's campaign to gain the school's adherence to the Uniform Disciplinary Code, which we mentioned in our opening paragraph, occurred prior to the period of our study. But this campaign came up frequently in our discussions with the

² T	ne names given for individuals in th	s article are pseudonyms.	
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youth and we include this material in our analyses. Most of these projects and campaigns were planned and carried out with other youth organizations, although we observed that members of Generation Y typically took a lead role within these collaborations.

To understand the unfolding of events and experiences in this program, we gathered information from three perspectives. Every 2 weeks from October through January our staff interviewed the lead organizer, Jason, and 10 youth whom he had selected.³ We also conducted participant observations on seven occasions. The 10 youth included 3 older teens (Elena, Rosa, and Che; ages 18–19) who had been in the program for 3 years and been given the paid role of 'student organizers.' The other youth were ages 15–17 and had been in the program for a year or less, except for Leon, who had been in it for about 2½ years. They were not generally high achievers. On a questionnaire, most of these 10 youth reported that their grades in school were B's and C's. All of these youth had participated in a 6-week, 20-hour-per-week internship at Generation Y the summer before our study. During this internship they participated in training workshops (which we describe later) and they collected data and prepared an 11-page report on educational inequalities in the city's high schools.

Youth's development of agency, we posited, was likely to occur through their conscious experience and involve an interplay of perceived challenges and active responses to those challenges [Larson, Hansen, & Walker, in press]. Therefore, the interviews were aimed at obtaining participants' interpretations of experiences. To understand youth's development of strategic thinking we focused on responses to a sequence of questions in the biweekly interviews that asked about the 'challenges and obstacles' the youth were facing, the strategies they were using to overcome the challenges and reach their goals, and what they were learning. It should be noted that, although youth were interviewed individually, they often used 'we' in answering these questions, suggesting that the challenges, strategies and learning were often experienced collaboratively. To understand how the program supported this development, we drew on data from the interviews with Jason and the youth and from our observations.

Typed transcripts from the interviews and the observations were analyzed using grounded theory procedures and related techniques for identifying underlying patterns in qualitative data and developing theoretical constructs from these patterns [Auerbach & Silverstein, 2003; Strauss & Corbin, 1998; Taylor & Bogdan, 1998]. These procedures included an iterative process of intense immersion in the data, verification of coding decisions between co-authors, and comparing emerging constructs with concepts used in the research literature. In reporting the results, first, we focus on what youth learned over the 4-month period and then we discuss the role of the program in supporting this learning.

⁴ Our report focuses on data showing the development of strategic thinking, however, the youth at Generation Y also reported learning the personal self-regulation concepts that we found at the FFA program, such as skills for managing stress, emotional self-control, and regulating effort.

³ We asked Jason to select youth who were articulate representative members of the group. They included 6 Hispanic and 4 African-American youth (5 youth of each gender). Interviews at the beginning, middle and end of the study were conducted in person and the others were conducted by phone.

What Youth Learned about Influencing Human Systems

Our analyses used the biweekly sequence of questions about ongoing challenges, strategies, and learning as a framework for evaluating youth's development of strategic thinking.

Challenges: Conceptualizing Human Systems

The 'challenges and obstacles' that youth reported as they worked on their campaigns can be seen as a reflection of the appraisal and problem formulation process. They described a diverse range of challenges in their work, from trying to fit Generation Y activities into their busy lives to worrying about the weather on the day of a rally. What stood out for us was that quite a number of these challenges reflected understanding of different human systems, particularly the three distinct worlds of school administrators, teachers, and students.

The challenges that involved *school administrators* were phrased in ways that went beyond seeing them as stereotyped, unidimensional authority figures. For example, asked to describe what challenges and obstacles they had faced, 17-year-old Leon recounted their difficulty in getting a meeting with the school CEO, Richie Kelly:

Usually their secretaries pick up the phone and, 'Oh um, so and so's not here'. Or then with Richie Kelly, we had trouble reaching him cause he's the school CEO. So he was at meetings with the mayor and different political figures, and this and that, so at first it was hard to reach him.

This quote shows understanding of the central school office as a system: that top administrators' time is filled up with important activities and that they are shielded by the people around them. Other descriptions of challenges and obstacles reflected knowledge of how school administrators think, for example, that they are influenced by compelling data and by events that make the evening news. Rather than the information on formal government systems taught in high school [Hahn, 1998], these youth were drawing on real-world knowledge of what motivates school administrators and how a local governmental system actually works.

The challenges that involved *teachers* represented them as a distinct group of human actors who shape what happens in schools. Rosa, one of the student organizers, was trying to rally the support of teachers for a new college preparation program that was being considered by the schools. She described challenges that recognized how different teachers had different orientations:

A lot of teachers don't like change and they are happy doing what they are doing right now. A lot of the younger teachers are for it, but a lot of the older teachers are like 'No, I don't want to do it.' So that's going to be one of our obstacles in the new year – trying to get teachers who are kind of conservative to be more open about this way of learning. They think that if students wanted to make a difference they'd study hard in their classes.

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Rosa's formulation of the challenges demonstrates an understanding of generational differences between teachers, and the entrenched lethargy and conservatism of some who have been in the profession for a long time.

Another youth identified the challenge of protecting teachers who had helped them in their fight against the new citywide exam imposed by the school board. Jorge, age 16, worried that these teachers could be sanctioned by the school administration: 'They are going to think that "All the teachers were up to this."' He went on to say that, if the school administrators started blaming the teachers, he would turn himself in and take responsibility in order to get the teachers off the hook. His problem formulation recognized the multifaceted relationship between teachers and administrators.

The youth also reported challenges and obstacles that conceptualized the *students* as a constituency with distinct orientations, motives, and ways of thinking. They described their fellow students as prone to apathy, and a repeated challenge was how to get their attention and interest them in their cause. A significant amount of the planning for their citywide Youth Summit focused on how to get youth to attend: through publicity, by providing buses, by holding a dance at the end of the event. Leon recognized it as an obstacle that several high schools had homecoming on the day of the summit, and decided to focus his efforts on those students who were not going to homecoming. Youth preparing their talks and workshops for the summit reported working on the challenge of how to keep youth engaged, 'How to keep the discussion interesting, how not to lose the interest of the group.' The youth's formulation of challenges, then, reflected understanding that adolescents are motivated beings, who have other priorities and interests that compete for their attention.

Research indicates that the conceptualization of a problem is key to solving it, and that experts in a given domain are differentiated from novices in how well they do this conceptualization [Pretz et al., 2003]. Although these youth had by no means become experts on the complexities of human systems, their articulation of challenges showed ways of thinking that drew on the new cognitive potentials of mid and late adolescence: that took into account others' intentions and complex systems processes. They had begun to understand the world of school administrators as one of formal procedures and persuasive evidence. They had learned that teachers have differing ways of thinking, and that holding students' interest is a minute-to-minute challenge. What may be most important is that this understanding of these human systems was not just theoretical understanding, it was actionable knowledge. They used it to create strategies.

Strategies: Three Modes of Strategic Thinking

The youth used their understanding of these systems to develop approaches to influence them. In each biweekly interview we asked youth to describe the strategies they were using to overcome the current challenges and to work toward the goals of their campaigns. Our analysis led to the identification of three types or modes of strategic thinking within the youth's reports.

Seeking Strategic Information. The first mode involved obtaining information that would be useful to their goals. The literature on planning and problems-solving suggests that absence of information necessarily limits the scope of planning. Effective strategy building requires obtaining a sufficient knowledge base from which plans can be built [Friedman & Scholnick, 1997]. Yet deliberate collection of information for strategic use would seem to require advanced cognitive capabilities. It is only in adolescence that young people have the potential to think about the coordination of evidence and theory [Keating, 2004], and thinking about how evidence relates both to the system it represents and the target audience one wants to influence requires coordination of thought about multiple systems.

Asked about the strategies they were using, the youth at Generation Y described both informal and systematic processes of information gathering. When they heard about a problem in the schools, Leon said they would ask around and 'find out if that's happened to anybody else.' They also conducted surveys, went through public school records, and took photographs of city and suburban schools to provide comparisons to other districts and document the renovations needed in the city schools.

Leon recounted how they gathered information to challenge the schools' use of suspensions to punish youth for minor offenses under the Uniform Disciplinary Code:

The first thing we did was have interviews and surveys of students. These weren't scientific and they weren't really formal, they were just, you know 'Hi, how you doing, would you like to fill out a questionnaire?'

The objective was to document how often students were suspended for different causes. They interviewed 667 students, including 248 who had been suspended during the prior year. They also used the Freedom of Information Act to access data on suspensions from the school board's office of accountability and the State Department of Education. Leon continued by describing what they did with this information:

We classified it and put it in subcategories and we found out that a large majority of students were being suspended for nonviolent offences. And initially the zero tolerance policy was supposed to combat violent offences such as bringing a gun to school or having possession of drugs and weaponry.

The students had gathered compelling information showing that schools were violating the intent of the school district's own disciplinary code.

The youth also described gathering information from students as a standard procedure for identifying issues and developing strategies. They surveyed students to determine what issues were of greatest concern to them. When they started to work on school overcrowding, they asked students what they thought should be done about it. In developing workshops for the Youth Summit, they sought feedback from peers to help them think about, for example, 'what will make it fun and not boring and you know educational?' This vetting of ideas on others is another informational strategy.

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The abilities to acquire, organize, and use information have been identified as among the crucial job skills needed for employment in the new economy [Partnership for 21st Century Skills, 2004; SCANS, 1991]. People with more information formulate problems more effectively, in ways that get at the deeper structure of problems they are trying to solve [Pretz et al., 2003]. By collecting data on school problems and on students' priorities, they were in a better position to carry out their campaigns. The members of Generation Y, however, did not solely use information to formulate problems, they used it as a tool for action. The youth had grasped the modern dictum that 'information is power,' and they used information as a tool to impact human systems. This leads to the second mode of strategic thinking that we observed.

Strategic Communication. The youth thought actively about how to use the information they collected to influence people. This mode of strategic thinking is central to fields concerned with applied communications. Writers are implored to write 'reader-based prose' [Flower, 1979]; educators are taught to use 'student-centered learning' [Chall, 2000]; in the field of public communication it is understood that to deliver an effective message, you need to frame it to the target audience [Bonk, Griggs, & Tynes, 1999].

Many of the youth reported thinking about how to adapt their communications to the different audiences whom they wanted to influence, particularly school administrators and students. Leon stressed that in presenting to school administrators it was important to 'always have information that you can count on. State the facts and always state where you got the facts.' Miguel described the information he had gathered as key to the success of his speech to the school board and Jorge said that good information was essential to breaking through adults' dismissive attitude toward youth. They saw information as key to their credibility with school authorities.

The youth also described framing messages to be effective in connecting with their peers. In preparing workshops for the Youth Summit, 16-year-old Aisha said: 'We basically put the most important facts together. We keep the ones that like catch people's attention about the detentions in school – that they are overcrowded and stuff like that.' She described using case examples and surveys to highlight the injustices that students experienced. Elena showed similar intentionality in preparing an educational workshop on sexuality for students at the Youth Summit:

I think some people's backgrounds aren't used to having them learn about having sex, or LGBTQ issues; they are not used to talking about them. So I was afraid of the different reactions. And then we didn't know who was in the room, so we didn't know if anyone was gonna get offended by anything.

In response to this challenge, Elena described trying to present these issues in ways 'that would keep everyone as comfortable as possible,' while also challenging them to think more deeply about issues of sexuality.

Jorge provided another example of framing messages to youth. He was going from school to school trying to get students to turn out for the rally against the new citywide exam. He found an effective way to mobilize them by showing how the exam would affect them:

At first they were just mad because they knew it was just a big waste of time, but then I also showed them like it affects your grade, like in a bad way if you don't pass it, and they don't even prepare us for it. And they're like 'Hey, yeah you're right.' So that got them even more into it.

Jorge discovered that relating the issues to students' grades was effective in engaging them.

The strategy of framing messages to one's target audience is not easy, even for adults. Saul Alinsky, a founder of modern community organizing, emphasized that it is 'fundamental' that one communicates within the experience of the audience one is trying to influence (and he criticized young Vietnam protest leaders for failing to grasp this when they repeatedly acted in inflammatory ways [Alinsky, 1971]). Scholars have described adolescents as thinking egocentrically [Elkind, 1967], and yet those in Generation Y were learning to transcend their own viewpoint and think intentionally about how different messages would be received from others' viewpoint.

Sequential and Contingent Thinking. The third mode of strategic thinking involved ordering sequences of steps to reach a goal while taking into account contingencies that might arise. Developing steps to reach a goal is, of course, a central concern of the planning literature, but there has been little research on the development of this process of ordering for adolescents, especially in the context of solving problems concerning human systems where the planner needs to anticipate contingencies, monitor, and use flexible strategies.

Sequential thinking was present in many of the youth's statements. Leon described a complex sequence in their efforts to influence the CEO and the Board of Education regarding the schools' disciplinary code. To get through the phalanx of lower level administrators and secretaries to reach top officials, Leon said:

We had to start with some of the people that were just night officers. We had an idea what we wanted to present but, we just couldn't get the top person. So we had to work our way up the echelon. We couldn't get the first in command so let's get the second in command, and if we can't get the second, then we get the third, and so on, until finally the work we were doing got around. Eventually the top person had to meet with us. Cause you know we were becoming known.

Often the sequences the youth described involved integrating the other modes of strategic thinking. Later in the same interview, Leon explained how the information they collected was integral to their strategy for influencing board members:

After we got the research, we started having proposals with members of the board. And some were warm toward us some didn't really care. But after we kept doing it and doing it, you know, getting more and more concrete facts and solid figures, after a while it was too obvious to ignore. If you have research and analysis then you can't ignore it.

Their sequence of actions used information and strategic communication to build up an influential case.

Jorge described integrating information seeking and strategic communications into the steps he would follow in organizing against the new citywide exam:

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I talked to a teacher, and she gave me some papers, saying a lot of facts about the exam, and why it's really not necessary. I just highlighted a few things that I should read, and then I'm going to talk to some students from other schools to see if I can get them to help us do a walkout. I'm going to go from class to class, just like talking to one kid at a time, and then I'll ask them to slowly spread it towards kids in their division, and like people in their class, and then I'll just tell 'em the date. And then, if they want to know more, I'll just like give them a copy of one of these papers, so they can really see what's going.

A notable feature of Jorge's account of his plan is the number of 'ifs' and 'thens.' He anticipated how students were likely to respond to his message and planned for contingent steps.

Anticipation of contingencies was present in other students' accounts as well. When they prepared for a school board meeting, they tried to anticipate the questions that might arise. In one interview, Miguel indicated that he was ready with statistics on key issues, in case they came up. In another context, Aisha explained that:

If we have an idea, we'll make plan A, and just in case plan A fails, we have plan B. We've never had to use plan B, so we always went thought with plan A. But I think this specific case with the [new citywide exam]. I think we might have to go to plan B.

Like the young people in Heath's [1999] research on youth programs, the youth at Generation Y actively thought through possible turns of events.

Contingency planning is a mode of thinking required in the worlds of business and government, and these youth appeared to be developing it. They were thinking in terms of sequences of actions, possible reactions, and how to respond flexibly to different possibilities in order to achieve their goals. Like the two other modes of strategic thinking, this third mode drew on cognitive abilities described by scholars as not available until adolescence: understanding the interaction of complex systems, inferring the intentions and psychology of other people, and understanding processes of human change. It involved abstract analyses of means/ends relationships between actions and outcomes.

Conclusion. The value of these strategic modes of thinking was evident in the success that these youth had with some of their projects and campaigns. As is inevitable with human systems, there were ups and downs, and hits and misses. After they were having success with getting the school administrators' attention regarding non-adherence to the Disciplinary Code, the worst contingency occurred: The superintendent was terminated. As Rosa recounts,

We're like, 'Oh God, all this work, we've gotten so far. We were going to have to start all over again.' But we wrote a letter to [the new superintendent] and he actually signed an attention to all principals saying students will not be and should not be suspended for non-violent reasons, such as cuts and tardies and so on. So we were really happy.

In contrast, they made little headway during the period of our research with their campaign to change school funding. However, the Youth Summit they planned was largely a success, and the new citywide exam was cancelled (although mainly for reasons unrelated to the Generation Y work). The value of these modes of thinking was also evident in the youth's reports that they used them in dealing with human systems in other parts of their lives.

Learning: Carry Over to Other Domains

A qualitative study like this cannot provide hard evidence that Generation Y was responsible for the youth's possession of these strategic skills. We cannot prove that they did not have these skills when they entered the program, although the research we cited on adolescent cognition suggests this is unlikely. We do not have pre- to post-test data to establish changes in abilities. The youth, however, credited their learning to Generation Y. When the interviewers asked them what they had learned from the program, they identified the strategic skills we have mentioned.

The strongest confirmation we obtained was their reports that, as individuals, they used the strategic skills they had learned in other parts of their lives. Many of the youth described transfer of these ways of thinking from Generation Y to their schoolwork. Jorge said that before joining Generation Y he had been 'barely getting by, but now [as a result of Generation Y] I'm doing a lot better.' Tanya and Malcolm related how their new strategic skills made them more effective when doing group work in class. In Tanya's words,

Like before I got here, whenever you have to do a group thing, I wouldn't know how to start out, what to do. But now when the teacher says we are going to do a group project, I'd be happy and all excited, because now I know the stuff to do and how to do them.

In some cases, youth used their new strategic skills to influence their teachers. Elena described how she had an ethnic studies class that was boring and not raising crucial issues. So she and another girl talked to the teacher, and the teacher changed the course. 'It wasn't like a great course, but it was better, and we both got As.'

The youth also reported using these skills in other domains and in thinking about their futures. Jorge recounted using his strategic skills to work with his friends to get the cement skate parks in the city opened to youth who do tricks on bikes. Leon anticipated using what he had learned at Generation Y when he got to college. He said that if he was having a problem, for example regarding a grade, he knew that they he could find someone to talk to about it.

I learned from this that if you can't talk to one person there's somebody that you can talk to that has connections to the person. So, it's just a matter of using connections and networking to get what you want.

Several youth said the sense of empowerment they gained from the program influenced them to go to college; one had decided to go into community organizing for his career. Rosa said that the success they experienced had influenced her to pursue a career in law, an option that she had never imagined before.

Development research indicates that new cognitive skills are often context and content specific [Bidell & Fischer, 2000], yet these youth appeared to transfer their strategic skills to other contexts and to their thinking about their futures. This indi-

cates that the modes of thinking they learned had some degree of generality beyond the specific context of social action campaigns. As has been found in other domains of learning [Anderson, Reder, & Simon, 1996; Greeno, 1997], these youth appeared able to carry away abstract rules or apply experience by analogy to other contexts.

How Youth Learned and the Role of the Adult Advisors

When we asked youth to describe *how* they learned these strategic skills, they portrayed themselves – individually and collectively – as the agents of their own development. More specifically, they reported learning from doing: from drawing strategic lessons from their experiences. In fact, they sometimes answered the question of how they learned by recounting an experience in Generation Y that provided the basis for their new knowledge – a story with a moral. In other words, their knowledge was at times embodied in narrative real-life examples [cf. Overton, 1990]. Generally these narratives detailed what they had done right in a given situation that had led to success, but sometimes they detailed mistakes that they would avoid in the future.

These reports, then, suggest that youth learned strategic thinking through a cycle of self-initiated action, feedback, and learning. Their strategic action was followed by monitoring and evaluation of a strategy's success. This cycle resembles processes described in theories of self-regulated learning [Zimmerman, 2001] and experiential education [Dewey, 1916; Priest & Gass, 1997]. In a similar vein, Heath [1994] argues that effective youth programs provide a cycle in which youth's work toward a goal culminates in some form of real-world authentic evaluation.

Although the youth saw themselves as the agents of this process, the adults and the program entered into these cycles of learning in important ways. For the second part of our analyses we examined the data from the youth, from Jason, and from our observations in order to understand how the adults and the context facilitated the youth's development of strategic thinking. These analyses suggested that the adults helped scaffold the youths' learning, first, by structuring training sessions that provided practice experiences; second and most importantly, by shepherding along the social action campaigns which provided real-life cycles of learning, and, third, by providing a culture and community of strategic action.

Providing Training Experiences

Throughout the year and during the summer internship prior to our study, Jason organized training workshops for the youth. These workshops included sessions on social injustices (e.g., discrimination against GLBT youth and adults) and on various social change movements, such as the Zapatista movement in Mexico. During the summer internship, Jason also organized sessions on techniques of social change, including action research, planning a fund-raising activity, and making public service announcements. These are topics in which use of information, strategic communication, and sequential thinking were likely to have been part of the content. But it appeared that these strategic skills were not directly taught. Elena

reported that during the summer, 'there wasn't really a training,' indicating that she did not feel like they had been instructed in specific skills.

Instead, the format for these workshops fit the model of learning through cycles of action and evaluation. Asked about the summer workshops, Jason said, 'Some of them were like watch a video and have a discussion, but most of them were interactive, hands on, small group activities.' As an example, he described how they conducted two role plays as preparation for a meeting with the school CEO at the end of the summer. Jason had a friend who worked for the school board come to role play the CEO for one of the sessions. They videotaped the first role play and watched it. Afterwards, the youth had a discussion in which Jason said they 'strategically thought out what their roles would be at the meeting, how they could counteract different arguments.' In fall sessions, we observed Jason periodically interject questions and direct discussion toward issues that encouraged critical thinking by the youth. So, in addition to structuring the practice experiences, he provided input into the discussions.

Scaffolding the Youth's Work

When asked about support they received from adults, the youth nearly always mentioned the role that Jason and other adults played in facilitating their social action campaigns. Their work in trying to change real-life human systems was much more salient to the youth than the simulated experiences during the summer. Jason also said, 'A lot of things with organizing you can't teach, you have to experience it. I think the most important piece is providing opportunities for them actually to use their talents in real-life settings.' More often than serving as teachers, the adults served as experienced collaborators who contributed to the youth's work and helped keep it on track so that youth could learn from it.

Assisting with the Work. Jason contributed to the projects and campaigns in a range of ways. Often he worked side-by-side with the youth, doing whatever needed to be done. But sometimes he provided guidance and structuring. Tanya reported that, if she didn't understand how to do something, Jason broke it down for her. On another occasion, Tanya said, 'If we want to go to somebody like Richie Kelly, Jason showed us how to organize and get all of our information together, so when we go to talk to him we know what to say.' Jason reported that some times he was quite directive:

I'll say, 'Okay we need to write a letter to this office [the Board of Education] to follow up in the Youth Summit,' and three people will volunteer to do it. And I'll be like, 'Okay, you guys go ahead and meet and do that'. It doesn't always happen you know. So I'll keep hounding them, 'Okay, did the letter get written?'

In this example, Jason provided direct scaffolding for learning strategic communication. A youth reported that Jason checked the letter and suggested a few modifications to make sure the letter was written effectively.

When it was called for, Jason did the work himself. For example on an occasion when analysis of a computer survey was needed by the next day and he was the only one with the necessary skills, he did it. In his words, 'I'm paid. It doesn't make sense for me to assign everything, like "You're my minions." I need to do

things too.' He also did things for the group that needed to be done during the day, when the youth were in school, like following up with other organizations or arranging for buses to get people to the Youth Summit.

Youth development research suggests that in effective collaborations between youth and adults, adults do not stand back from the work, they share their expertise and provide strategic support for youth in ways that foster development [Camino, in press; Zeldin & Camino, 1999]. Adults often have expertise that youth do not (although the reverse can be true as well). Consistent with this, research that deals specifically with planning shows how shared decision-making with adults can help youth learn planning skills [Gauvain, 2001]. This process is illustrated by laboratory studies that Radziszewska & Rogoff [1988, 1991] conducted with 9- to 11-year-olds. Working alone or in groups, these pre-adolescents tended to focus on single, short-term planning tasks, which made them less effective and less likely to learn. The important contribution when adults were added was to direct the youth's attention toward integration of multiple tasks and information over a longer-term time frame.

This is what Jason did. Reviewing the group's accomplishments, Jorge said, '[Jason] was always there and he was making sure we're talking about the right stuff and, yeah, if it wasn't for him, we wouldn't have been able to do any of this.' Like effective tutors described by Rogoff [1998], Jason protected the youth from floundering in extraneous details. We saw this type of floundering in our FFA study, where the adults took a much more hands-off approach [Larson et al., in press]. Jason's active scaffolding of the youth's campaigns was critical to the youth's learning because, if the youth's work toward a goal had petered out or gone way off track, there would not have been a strategic outcome for the youth to learn from. Jason's input helped sustain the cycles of action and evaluation through which the youth developed strategic thinking.

Supporting Youth Ownership. An important point, however, is that Jason and other adults provided support and shared their expertise in ways that kept agency – and ownership of the work's outcomes – with the youth. For them to really learn to be agents of social change, they had to experience the actions in the campaigns as their own. One example of how the adults provided support but kept agency with the youth was writing agendas for meetings. These agendas created a structure for decision-making but left the decisions themselves to the youth. In one meeting with another organization an adult had a flip chart with an outline of issues to be addressed, and the chart had boxes to write in the decisions the youth made for each.

In other cases, Jason supported youth ownership by acting as a co-equal partner in the planning process. Leon described how they planned an icebreaker for one session at the Youth Summit:

It was a combination of my idea, Carmen's idea, and Che's idea, because we each came up with something and Jason came up with something. So we all decided to kind of blend our ideas together. Jason came up with the idea of having the students do a task. I came up with the idea of showing lower income and higher income schools with a lot of funding. And Che was the one who basically took the pictures and things.

Jason was working side-by-side with the youth to gather strategic information and develop their strategic communication approaches.

We have theorized that the most effective conditions for development occur when adult leaders achieve a balance between keeping the work on track and maximizing youth ownership [Larson, Jarrett, Hansen, et al., in press; Larson, Walker, & Pearce, in press]. Like the other effective youth workers we have studied, Jason used techniques like providing intermediate structures (e.g., an agenda, breaking things down) and monitoring that kept youth on track. But he used these techniques contingent on the abilities of youth and in ways that kept agency with the youth.

Through this balancing, youth's investment and ownership was directed and sometimes redirected in ways that support their strategic learning. Rosa illustrated this when she was asked what she had learned from Generation Y about planning, 'I think I'm always in a rush. I will say, 'Let's rally!' But then Jason taught us to do things so they can't tell us this is sloppy.' Rosa recognized that her impulsive urge to protest had been redirected into a more deliberate long-term strategic way of thinking. She went on to describe a campaign in which they carried out several actions over a period of time, each contingent on the other, that resulted in their getting what they wanted from the mayor's office. The moral of this important experience for her was that a thoughtful long-term strategic approach is more effective in reaching your goal.

Encouraging Evaluation. At the conclusion of each project or campaign, Jason ensured that they held a debriefing session to critically assess how effective their efforts had been: what had gone right, what could have been done better, how did events influence what happened? No doubt the youth learned throughout their work, and the outcome of the event spoke for itself as Heath's real-world authentic evaluation. Nonetheless, these debriefing sessions provided the chance for the youth to critically appraise the relationships between the challenges they had faced, the means they had employed, and the ends they achieved, thus completing the cycle of learning.

Cultivating a Culture and Community of Social Change and Strategic Thinking

We also found that youth's experiences at every stage in the cycle of learning were refracted through the culture of Generation Y. When young people entered the doors of the building they entered a community of social change, a community that Jason, other adults, and the youth themselves helped to cultivate. 'You can't be there five minutes,' Jorge said, 'without talking about politics.' The practices of this cultural community – which were interrelated with their parent organization and with other activist groups with whom they interacted –

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were focused on critiquing human systems (political, economic, organizational, etc.) and on concepts of how to change those systems. This culture was imbued with experiences, beliefs, and knowledge about the linkages between actions and outcomes.

In describing youth activism programs, Sullivan [2000] argues that the history of youth-led social movements is a powerful tool for mobilizing and educating young people, and this appeared to be the case at Generation Y. Elena described learning through different social movements throughout history, 'We talk about liberations, and then we talk about what helped change things, and why they were changed, and how they were changed.' Jason said they drew especially on social justice movements that involved youth of color in the United States: the civil rights movement of the 1960s, Black Power, Chicano activism, Puerto Rican activism, and Native American youth activism. The youth referred to the work of social activists including Martin Luther King, Malcolm X, Che Guevara, and others. These movements were a vicarious source of strategic experience that the youth drew upon.

The culture of Generation Y included not just the history of other movements, but also their own history. New members learned from returning members about what they had achieved in the past. Like the accounts of other historic movements, their own history provided useful narratives about how to achieve social change.

Conclusions

This article is about empowerment: how young people are able to draw on the new reasoning capabilities of adolescence to learn to act on the world, specifically the human world. It is about how, under supportive conditions, they can acquire new modes of thinking that allow them to conceive a long-term organized sequence of actions to impact people and institutions. These new ways of thinking empower youth by allowing them to exercise agency over a longer arc of time and across a wider interpersonal space.

Impacting human worlds is difficult, and we think it likely that many youth do not become adept at it. Human systems – including institutions, informal networks, and the individual actors who compose these – are not governed by principles of formal logic. They function with irregular 'bounded rationality': they are directed by abstract and often-opaque human intentions, follow fuzzy context-specific rules, and are not fully predictable. The behavior of human institutions reflects a complex interplay of competing individuals and interest groups. Impacting human systems requires learning a different sort of reasoning, one that is not deductive and formally logical, but rather heuristic, contingent, and tailored to the peculiar dynamics of human interpersonal and institutional life.

We have identified ways of thinking that appeared to allow youth to exercise agency within the difficult bounded rationality of human systems. As the teens in Generation Y faced the week-to-week challenges of their campaigns for social justice, they developed a more pragmatic and dynamic knowledge of human and institutional systems than is typically taught in civics classes. They came to recognize how humans resist change, the challenges of mobilizing their peers, and some of the 'systemantics' of human and institutional behavior. With the support of the

program, they came to understand how people in these different systems – school administrators, teachers, and students – were guided by distinct ways of thinking and behavioral protocols. This pragmatic understanding was valuable because it was actionable knowledge. It allowed youth to better formulate the opportunities and obstacles they faced and develop effective strategies for addressing them.

The three modes of strategic thinking that we observed in these youth might be seen as providing links in a developmental progression of skills for this type of agency. These modes start to suggest the middle steps between children's concrete planning skills and the complex strategic expertise of many adult occupations and larger social change movements. First, these modes of thinking appear to build on new cognitive capabilities of adolescence. The skills that the Generation Y youth exhibited in collecting strategic information appeared to draw upon adolescents' new potential for understanding evidence as an abstract object of thought and for thinking about this evidence in relation to the systems it represents. The skills they used for strategic communication - adapting messages to audiences they were trying to influence - reflected what might be seen as advanced 'theory of mind.' It transcended adolescents' reputed egocentrism and drew on their new potentials for adapting their strategies to other people's intentions, ways of reasoning, and ways of perceiving [Selman, 2003]. The skills they demonstrated for sequential and contingent planning drew on and built on adolescents' potentials for understanding multiple interacting systems, sequences of human change, and their new metacognitive metastrategic capabilities.

Second, these modes of thinking may serve as gateway capabilities to worlds of strategic expertise in adulthood. We have pointed out that the information skills, strategic communication skills, and contingent thinking demonstrated by these youth are matched, for example, to skills that national commissions are calling for in the new work force [Partnership for 21st Century Skills, 2004; SCANS, 1991] and described in the literature on social activism [Alinsky, 1971]. By no means do we see these three modes of strategic thinking as an elemental or inclusive list. Though less frequent, we witnessed other skills and strategies, like forming alliances and compromising, that could have been included and might be more frequent in other developmental contexts. An important point is that this strategic way of thinking had enough generality that it transferred to other arenas of youth's lives and to their thinking about their futures. Several youth described these skills – and the sense of empowerment that came with them – as leading them to formulate new plans to attend college or pursue a more ambitious adult career. This new way of thinking appeared to open new possibilities for them; the skills they learned were operative for their own futures. Indeed, longitudinal research suggests that involvement in successful social movements is related to long-term patterns of personal achievement [Fendrich, 1993; McAdam, 1988].

The findings of this exploration are consistent with our thesis that youth programs, particularly activism programs, can be a rich context for the development of agency. The youth in Generation Y portrayed themselves as the agents of their own development: as a collective and as individuals, they described learning strategic skills from their experiences in action campaigns. Yet our data also suggested that the adult advisor, Jason, and the program provided crucial scaffolding that supported this experience. It would have been incredibly daunting for a handful of youth to learn how to successfully take on the Chicago Board of Education on their

own. Jason structured training experiences, provided ongoing support, and helped insure that the youth's campaigns kept on track so that they could learn from the outcomes, from a cycle of learning. The program also provided a culture that supported activism.

Given the exploratory nature of our research, the limitations of our conclusions must be kept in mind. We studied only a handful of youth in one program. We did not have sufficient data over a long enough period of time to follow the trajectory of development, evaluate differences among youth, nor effectively examine the interplay between individual and collaborative reasoning. More research is needed. Nonetheless, we think these data suggest important connections between young people's cognitive development, civic development, and development of agency, as well as showing the exemplary role that a program like Generation Y can play in facilitating this growth.

Acknowledgments

We would like to thank Jason Massad and the youth who shared their experiences with us. We also thank the William T. Grant Foundation for its support of this research and Patrick Sullivan, Kathrin Walker, Nickki Pearce, Natasha Watkins, Dustin Wood, and Katherine Sweeney for valuable contributions to this work.

Other articles from this research can be accessed at http://web.aces.uinc.edu/youthdev/.

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