

First Things First: Theory, Research and Practice

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Background and Overview

In 1981, Edward Deci founded the Human Motivation Research Group at the University of Rochester. Since that time, members of this group have applied the broad theoretical framework known as Self-determination Theory (SDT) in diverse domains (Deci & Ryan, 1985, 2000). Education has been one of the most fully developed of these domains (Deci, Reeve, & Ryan, 2004; Connell, Deci, & Ryan, 1985). In this article, we look at a specific educational application of SDT – the transformation of schools and systems of schools using a comprehensive educational reform model known as First Things First (FTF). As of October 2009, FTF reform strategies are now being implemented in five states, 14 districts, and 40 schools serving over 50,000 students primarily from economically disadvantaged communitiesⁱ. After summarizing the basic elements of this reform, we look back at its motivational “roots”. We then summarize the growing body of research on this model – research that looks at how implementation of the model affects student motivation, engagement and learning. Two longitudinal, quasi-experimental studies of FTF conducted by independent research organizations are the primary source materials for this summary.

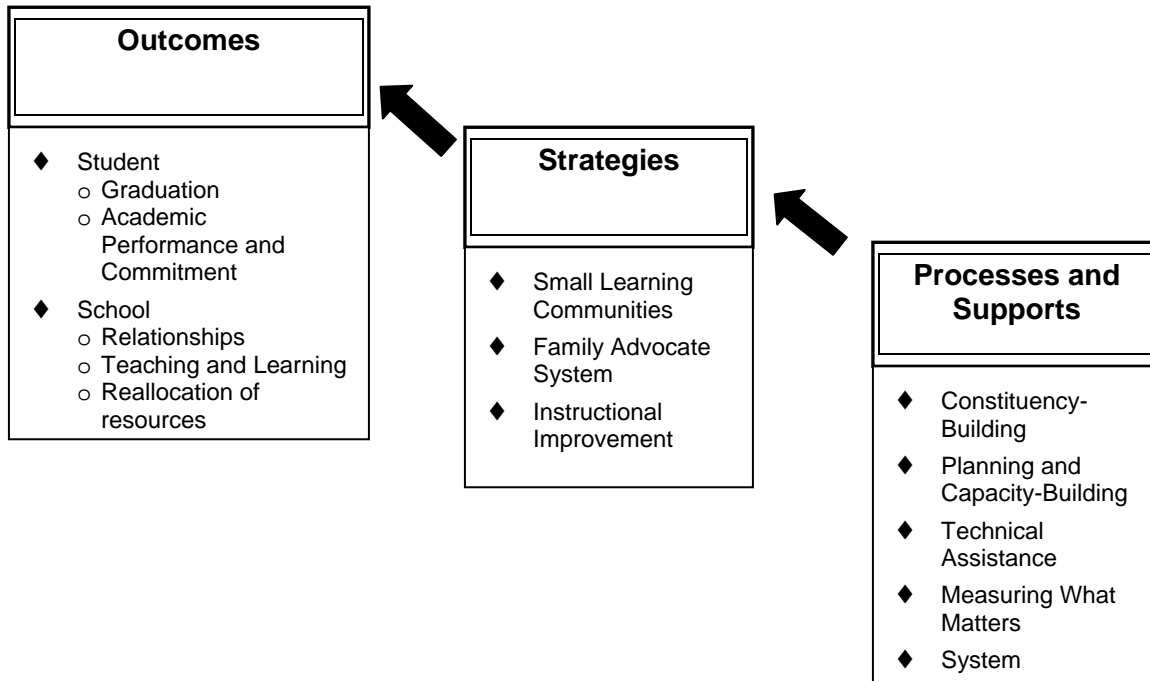
Finally, we briefly describe a groundbreaking research project now in the planning stages that will more rigorously test the impacts of FTF on an array of important outcomes and further illuminate the motivational processes underlying its effectiveness.

The First Things First Frameworkⁱⁱ

First Things First (FTF) is an education reform initiative that aims to raise the academic performance of all students to levels required for post-secondary education and high-quality employment without remediation. Developed by the Institute for Research and Reform in Education (IRRE) in 1996, FTF strives to create meaningful change for all students – particularly young people in low-income communities whom public education is failing.

The FTF framework provides a set of expectations and articulates the ways in which these expectations can be met by schools and districtsⁱⁱⁱ. Over time, the framework has evolved from an abstract theory to a tested set of interlocking processes, strategies and implementation standards aimed at improving critical student outcomes.

FIGURE 1: FIRST THINGS FIRST REFORM FRAMEWORK



As shown in Figure 1, the FTF framework includes:

- Student and school outcomes;
- Specific strategies for achieving these outcomes; and
- Structured processes for planning, capacity-building, and continuous improvement.

The key outcomes are:

- *For students:*
 - a. Improved academic performance and commitment; and
 - b. Graduation from high school.
- *For schools:*
 - a. Respectful, long-standing, and mutually accountable relationships among school staff, students, and families;

- b. Effective instructional practices that engage students in their own education and that are driven by high, clear, and fair academic and behavioral standards in every classroom every day; and
- c. Alignment of policies and resources – time, money, people, and facilities – to support the first two school outcomes.

First Things First Strategies

The major strategies to achieve those outcomes are thematic Small Learning Communities (SLCs), the Family and Student Advocacy System (FAS) and Instructional Improvement activities. SLCs and improving instruction have been explicit strategies from the beginning of FTF's first partnership, with Kansas City, Kansas schools, in 1996. The Family and Student Advocacy System strategy was added in 2000 in Kansas City, Kansas and in all FTF sites since then (Fruchter, 2007; IRRE, 2005; IRRE, in press).

Small Learning Communities

In FTF, SLCs encompass 10-20 staff and no more than 180 students at the elementary level and 350 students at the middle and high school levels. Students stay in their SLCs for most classes during the school day and across multiple years – for example, all four years of high school or all three years of middle school. With a relatively small number of students, each SLC is a size that allows staff to know every student personally, but still large enough to include teachers who can ensure the needed breadth of content expertise. All high school and many middle school SLCs mix grades – with students from all grade levels in the building in each SLC – making it possible to base instruction and curriculum on individual academic needs and interests, rather than only grade levels. SLC staff members share common planning time of three hours per

week, study data on individual students and take collective responsibility for every student's success and make key decisions about discipline, staffing, time use, and budget. FTF provides supports to schools around issues including: number of SLCs, size of SLCs, themes (that reflect student and staff interests and ensure equity), facilities use, equity of SLC staffing, scheduling (for common planning time), accessing data for SLC use and system leadership training and ongoing supports for quality and effective planning and implementation.

Family and Student Advocacy System

The Family Advocate System is a strategy to strengthen the involvement of families in supporting their own student's academic success. It is designed so that each student's family will be able to say yes to the following questions:

- Is my child known well;
- By an adult whom I know and trust at the school; and
- Do I know what my role is in supporting my child's success?

Under the Family and Student Advocacy System, all qualified staff members in a building become advocates for 15-20 students and their families, stay with them all the years they are in the school and do whatever it takes to help those students succeed. Family advocates contact families regularly and involve them and the students themselves in setting and meeting academic and behavioral goals. They also help students and families connect to community resources. Family advocates receive training to find and effectively use time for one-on-one meetings and group meetings with students; monitor student progress; establish regular and productive communication with parents; conduct effective family conferences; and work with colleagues to ensure each student's success. They are also supported by access to timely and

specific student outcome and behavioral data, materials for family advocate period use, setting up of family advocate groups, and appropriate system leadership training and support (IRRE, 2005).

Instructional improvement

Three overarching instructional goals have become the focus of FTF instructional improvement:

- *Engagement:* Students are actively involved – emotionally, behaviorally, and cognitively – in their academic work;
- *Alignment:* Learning materials and student work – and the assignments that produce it – reflect academic standards important to the district and state and offer opportunities for students to master the methods used on their state’s high stakes assessments; and
- *Rigor:* Teachers set high standards for all students, make those standards clear to students up front, embed those high standards in everything they do and everything that they ask students to do, and regularly review progress toward those standards.

To achieve these goals (often referred to by our partners as “EAR”), students are offered additional instructional time in literacy and math, as well as lower student-to-teacher ratios where possible. In addition, teachers need adequate time to focus on instructional improvement and the support to use this valuable time effectively. FTF builds on the SLC structure to create four basic time frames for instructional improvement activities to take place: (a) common planning time during the school day, as described earlier; (b) early dismissals and late starts to provide additional time for professional development; (c) district professional development days during which faculty learn about new instructional strategies for strengthening student engagement, aligning instruction with state and local standards, and

incorporating high expectations for all students into their lesson planning and teaching practices; and (d) summer training institutes.

Over time, FTF has also developed instructional modules (e.g. on teaching in the block, differentiated instruction, use of student work and EAR data to design and assess the effectiveness of professional development). FTF has recently developed a literacy curriculum for struggling readers, which schools may choose to implement though it is not a requirement of the FTF framework. And, as is true for each strategy, FTF offers specific training for system leaders to promote quality and effective implementation of these strategies and supports. One of these system leadership activities is the effective use of a classroom visit protocol for assessing engagement, alignment and rigor through examination of student learning and teacher practices. This protocol is described in more detail in the section below on FTF's continuous improvement process, Measuring What Matters.

FTF Planning, Capacity-Building and Continuous Improvement Processes and Supports

Lessons about how best to support schools and districts to plan for and implement FTF have, over time, become embedded into a set of processes and supports that are now also part of the FTF framework (along with the outcomes and strategies noted above). They include:

constituency-building, planning and capacity-building, implementation supports, Measuring What Matters, and system leadership development.

The types and sequences for these processes are described below in Table 1, FTF Planning Year Calendar and Table 2, FTF Implementation Year Calendar (for the first year of implementation) below^{iv}. The rationale for this approach and the processes themselves are described in more

detail in *Getting off the Dime* (Connell, 2002) and *Getting Ready, Willing and Able* (Connell, Klem, Legters, & West, 2005). Table 3, which follows, lays out the implementation standards to which FTF schools and districts hold themselves accountable. They represent a floor, not a ceiling, and have been refined over the course of experience and research with seven cohorts of schools now implementing FTF. These implementation standards help all of the partners understand IRRE’s best thinking on “how good is good enough” in terms of what needs to be in place to produce change in school and student outcomes.

**TABLE 1: FIRST THINGS FIRST PLANNING YEAR CALENDAR
(AS OF JUNE 2006)**

Activity	Time Frame	Participants
SUMMER/ FALL BEFORE PLANNING YEAR		
IRRE leads a series of constituency-building sessions for central office, board members, union leaders, and building administrators to introduce First Things First.	May-Jun	Central office School Board Union Leaders School Admin
Study Group Facilitators are identified by school/district and trained by IRRE. They help plan and facilitate: Fall Roundtable and school Study Group Sessions in late fall/early spring.	May-Jun	Study Grp Facil Teachers School Admin
School Improvement Facilitator(s) (SIFs) are selected by school/district.	May-Jul	Central office SIFs
District point person, SIFs, and principals receive training from IRRE staff.	Aug	SIFs Principals
IRRE collects information about school/district (e.g., community, students, staff, space, policies, programs, and politics).	May-Aug	IRRE
Fall Roundtable led by IRRE and key school/district leaders: <ul style="list-style-type: none"> ◆ Introduces First Things First: Entire school staff (teaching, support, and administrative) talk face-to-face with adults and students in other FTF schools; ◆ Create Study Groups; and ◆ Review Planning Year Activities and Decision-making Process. 	Oct	Teachers Support Staff Parents Community School Admin Superintendent Central office School Board Union Reps

**TABLE 1 CONT'D: FIRST THINGS FIRST PLANNING YEAR CALENDAR
(AS OF JUNE 2006)**

Activity	Time Frame	Participants
PLANNING YEAR		
Staffing survey conducted: SLC theme preferences and work experience.	Oct	SLC Staff
Student survey conducted: theme preferences.	Oct	Students
IRRE analyze faculty and student responses to surveys and recommend SLC themes.	Oct-Nov	IRRE
Study groups read and discuss: background materials on reform components and options for restructuring into SLCs – size, themes, and transitional communities.	Oct-Dec	SLC Staff
School leadership, with IRRE guidance, makes the final decisions about the size and themes of the SLCs.	Dec-Jan	School Admin SIF District Point Person
Building leaders and staff approve staffing plan prepared by IRRE.	Feb/March	School Admin SLC Staff
SLC faculty participate in instructional improvement activities.	Jan and ongoing	SLC Staff
District and building instructional supervisors and coaches trained in Measuring What Matters to support instructional improvement.	Jan and ongoing	District and School Instructional Leaders
Faculty begin to meet in SLCs and select (interim) SLC coordinators.	Mar/Apr	SLC Staff
Schools present information about SLC themes to current students and conduct recruitment at feeder schools.	Mar-May	SLC Staff Students
Schools develop SLC themes and plan SLC course offerings using materials and planning supports provided by IRRE.	Apr/May	SLC staff School Admin
Schools determine space allocation for each SLC.	Apr/May	SLC staff/ School admin
Students select a thematic SLC.	Apr/May	Students
Schools develop schedules for first implementation year for each SLC.	May-Aug	SLC staff/ School admin IRRE
SLC coordinator selected for Implementation Year 1.	May	SLC staff/ School admin
SLCs begin discussing discipline plans, practices, and procedures.	May	SLC staff/ School admin SLC coordinators
SLC coordinator training on leadership skills.	Mar-Summer	SLC coordinators
Summer Planning and Capacity Building Session: ♦ Family Advocate System training; ♦ Team building;	Summer	SLC staff/ School admin

<ul style="list-style-type: none">◆ “Opening the Doors” – functioning as a First Things First school;◆ Thematic development; and◆ Monitoring and supporting instructional improvement.		
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**TABLE 2: FIRST THINGS FIRST IMPLEMENTATION YEAR CALENDAR
2007**

SPRING	Support plan for an individual school is developed with the school based on assessments of current practices and student achievement data. This plan drives the IRRE supports throughout the first year of implementation.	
First Semester		Second Semester
<ul style="list-style-type: none"> • Two site visits <ul style="list-style-type: none"> - Providing monitoring and technical assistance specific to FAS, Structure, SLC Functioning and System Leadership once each quarter - Create follow up plans for school and HSRP staff, if appropriate • Two Instructional training, support and coaching visits (at least two days each) <ul style="list-style-type: none"> - Continue to develop a repertoire of instructional strategies and reinforce previously learned material - Monitor, model and coach classroom teachers to increase implementation of strategies - Leadership meetings and training regarding monitoring and supporting instruction • SLC Coordinator and AP Training – Early October <ul style="list-style-type: none"> - Provide continued support and development of facilitation skills - Introduce the implementation standards and the next steps toward meeting these standards • One system leadership meeting <ul style="list-style-type: none"> - Inclusive of the SLC Coordinator training with additional support in the implementation of HSRP by leadership in the schools including ongoing definition of roles, expectations, and next steps - Self-reflection and action planning • MWM Quarterly Check-ins and Data Dialogue <ul style="list-style-type: none"> - A collaborative analysis of the MWM data from the previous quarter and over time to determine immediate supports and to evaluate current actions - Set targets for coming quarter - Develop individual leadership plans to support identified needs • Any Professional Development Days available to provide training on targeted instructional focus • Early release or late starts are guided by either the district or area curriculum guidelines or by IRRE as agreed upon by the districts <ul style="list-style-type: none"> - Curriculum mapping, common assessments, and ongoing use of data to drive instructions • Frequent and on-going visits by the Site Director <ul style="list-style-type: none"> - Visiting common planning time, family advocate periods, walking with administrators on classroom visits, participating in administrative meetings to continually move toward deeper implementation 		<ul style="list-style-type: none"> • Two site visits <ul style="list-style-type: none"> - Providing monitoring and technical assistance specific to FAS, Structure, SLC Functioning and System Leadership once each quarter - Create follow up plans for school and HSRP staff, if appropriate • Two Instructional training, support and coaching visits (at least two days each) <ul style="list-style-type: none"> - Continue to develop a repertoire of instructional strategies and reinforce previously learned material - Monitor, model and coach classroom teachers to increase implementation of strategies - Leadership meetings and training regarding monitoring and supporting instruction • SLC Coordinator and AP Training – Early February <ul style="list-style-type: none"> - Provide continued support and development of facilitation skills - Reflect on first semester – address challenges and share successes - Review implementation strategies • SLC Coordinator and AP Training – Late May <ul style="list-style-type: none"> - End of year reflection and implementation check - Plan for summer activities and the next year • One system leadership meeting <ul style="list-style-type: none"> - Inclusive of the SLC Coordinator training with additional support in the implementation of HSRP by leadership in the schools including ongoing definition of roles, expectations, and next steps - Self- reflection and action planning • MWM Quarterly Check-ins and Data Dialogue <ul style="list-style-type: none"> - A collaborative analysis of the MWM data from the previous quarter and over time to determine immediate supports and to evaluate current actions - Set targets for coming quarter - Develop individual leadership plans to support identified needs • Any Professional Development Days available to provide training on targeted instructional focus • Early release or late starts are guided by either the district or area curriculum guidelines or by IRRE as agreed upon by the districts <ul style="list-style-type: none"> - Curriculum mapping, common assessments, and ongoing use of data to drive instructions • Frequent and on-going visits by the Site Director <ul style="list-style-type: none"> - Visiting common planning time, family advocate periods,

SPRING	Support plan for an individual school is developed with the school based on assessments of current practices and student achievement data. This plan drives the IRRE supports throughout the first year of implementation.	
	First Semester	Second Semester
		<p>walking with administrators on classroom visits, participating in administrative meetings to continually move toward deeper implementation</p> <ul style="list-style-type: none"> • Building leadership with partners, create the instructional plan for the next year and prepare for any summer training

TABLE 3: IMPLEMENTATION STANDARDS FOR FTF HIGH SCHOOLS (as of June 2006)

Small Learning Communities	Family and Student Advocacy System	Instructional Improvement
<p>STRUCTURAL Composition and Duration 1. 4-year SLCs (9-12) 2. Approximately 350 students per SLC 3. Heterogeneous groupings of students within SLC a) ESL b) Special Ed 4. 90% of students stay in SLC for 75% of time for core subjects and thematic classes 5. No tracking within or across SLCs Transitional Community (optional) 6. ESL 1 and 2 (Language Acquisition) 7. Opportunity Center (rapid credit recovery) Staffing 8. Based on contract requirements, interest, certification and equity 9. At least one full time teacher in each core area 10. At least one FTE teacher in thematic area 11. Staff who can provide services to Special Ed, ESL students 12. SLC Affiliates include administrators, counselors, planning lane teachers Common Planning Time (CPT) 13. Minimum of three hours per week during the school day a) ___for instructional improvement b) ___for student/family advocacy c) ___for SLC business 14. All SLC staff and affiliates have at least monthly CPT (90 minutes) Themes 15. Developed, offered, and staffed based on student/staff interest 16. Students choose from among all SCL themes available 17. At least 80% of incoming first year students get first choice and 90% one of first two choices Flexible Allocation Of Resources Within District Regulations 18. ___Time___People___Space___Money Physical Space 19. Each SLC has dedicated space within the building 20. At least 60% of SLC classrooms located contiguously FUNCTIONAL Themes 21. Themes infused into core academic courses 22. Four-year thematic courses of study available 23. Culminating experience related to theme available for all seniors 24. Cross-disciplinary, standards-based thematic projects Collective Responsibility 25. Five-year and annual targets on key student indicators set at SLC level 26. Data used on regular basis during CPT to develop action plans at SLC and individual student levels 27. SLC disciplinary policies articulated, enacted and reviewed for effectiveness</p>	<p>STRUCTURAL 1. All students and families have advocates assigned (1 advocate per 15-17 families) 2. All SLC staff and affiliates serves as advocates 3. Same advocate for all 4 years (1 yr in Transitional SLC) 4. Advocates have computer access to academic and behavior profiles for each student that is updated regularly 5. Advocacy period in schedule weekly (30-45 mins) or bi-weekly (60 mins) 6. Regular time set aside in CPT and banked time for advocacy discussions among SLC staff and affiliates FUNCTIONAL 7. Monthly contact with family 8. At least initial face-to-face conferences of at least 30 minutes with families, with student present 9. At least weekly one-on-one check-in with student 10. Use of advocacy period—engaging, aligned with FAS goals, rigorous and relationship-centered 11. SLC leaders trained and supported to lead common planning time a) Effective family advocate discussions during CPT and banked time on a regular basis b) Supports for advocacy are discussed; e.g., review of activities from the guide c) Gather and share information for family conferences d) Red flag/green flag process for identifying and intervening with students e) Effective action planning and follow up based on CPT discussions 12. System leaders provide effective training, intervention and ongoing support for strengthening advocacy functioning</p>	<p>STRUCTURAL 1. Block schedules of a least 80 minutes at least every other day for core subjects for each year core subjects are required 2. Implementation of FTF or district-selected curricula for struggling readers and struggling math learners 3. Minimum of 2/3 of CPT and PD time for instructional improvement activities 4. All core subject and thematic elective teachers are available to work together on instruction during CPT 5. Time is scheduled on a regular basis for departments to meet 6. Instructional coaches, planning lane affiliates, and supervisors available to work with SLC staff or content area staff during PD time 7. Timely and relevant student data are made available to SLC and content area teachers for instructional conversations, development and implementation of action plans FUNCTIONAL 8. Effective use of common planning time a) Data→Action Plan→Follow up/Modifications b) Use of district/provider’s tuning protocol, peer observation protocol and lesson refining protocols 9. Use of district’s managed curriculum, including guides, assessments, and benchmarks. If not provided by the district, teacher of core courses create: a) Curriculum map b) Common assessments aligned with standards c) Common grading rubrics based on state performance standards 10. Instructional leaders focus on instructional improvement by regular use of EAR classroom visit protocol and state of teaching and learning reports 11. Instructional leaders provide effective training, intervention and ongoing support for instructional improvement based on EAR and student performance data 12. Internships/partnerships part of school-to-work, school-to-college</p>

<p>28. In-school suspension replaced by SLC-based and administratively supported disciplinary remedies</p> <p>29. System leaders provide effective training, intervention and ongoing support for strengthening SLC functioning</p>		<p>planning</p>
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Measuring What Matters (MWM)

First Things First strives toward a set of key student outcomes that are aligned with but go beyond the requirements of No Child Left Behind. A detailed set of these outcomes for high schools are presented in Table 4. As noted above in Table 3, IRRE has also developed standards for implementation designed to improve these outcomes. MWM is a set of data collection tools and reports and a process for using them that provides our partners with information about how they are doing with respect to these key outcomes and implementation standards. MWM ensures that staff can work on the status of their students and on their own professional practices using continuously updated data.

Data on the student outcomes are provided to:

- Family advocates so they can use them to monitor student progress and share individual academic and behavior profiles in family conferences and one-on-one discussions with students;
- SLC coordinators and staff so they can use them to plan SLC, student and teacher interventions and supports; and
- School and district leaders so they can track and report progress at the SLC, department, school, and district levels; design interventions; and assess the system leaders' effectiveness in hitting outcome targets.

For effective practices, MWM includes tools for data collection through observation – Personal Digital Assistant (PDA)-based, self-assessments, and survey methods. These tools track practices around a small number of indicators for each of the three FTF implementation strategies: small learning communities, the Family Advocate System and instructional improvement. For example, IRRE has developed a protocol for instructional supervisors and coaches to use PDAs to collect information during classroom visits on the three FTF instructional goals – engagement, alignment and rigor. IRRE analyzes the data and generates reports that supervisors and coaches can then use in guiding individual teachers as well as in shaping more systemic interventions at the departmental, school, and SLC levels. MWM reports also provide information on the effectiveness of IRRE’s and system leaders’ efforts to support instructional improvement.

IRRE sees MWM not only as a process and tool for improving the quality of implementation of FTF strategies but also as a way to ensure that districts continue strengthening reform implementation beyond IRRE’s initial and intensive involvement. Through MWM, IRRE is helping our partner districts and schools build the capacity of leaders throughout the system (building administrators, teacher leaders, school improvement facilitators, instructional coaches, and central office staff) to collect, review, and use data about the quality of implementation across all three reform strategies.

**TABLE 4: STUDENT OUTCOMES AND INDICATORS OF
PROGRESS IN HIGH SCHOOL**

1. What **outcomes** matter most for our students – contribute to or undermine their chances of graduation from high school and their future success?
2. How can we track progress on *indicators* of these outcomes at the individual, SLC, school, and district levels?

Whether or not they stay in school, make progress toward graduation and graduate

What percentage of our entering freshman: Are still in high school one year later? Two years later? Three years later? Are on time to finish with diplomas? Graduate with diplomas?

Whether or not they attend classes regularly

What percentage of our students attend school at least 90% of the days they are enrolled in the school?

What percentage of our students attend school less than 80% of the days they are enrolled?

What percentage of our students miss one or more days of instruction due to suspension?

Whether or not they pass their required courses in a timely fashion

What percentage of our students have accumulated the appropriate number and types of credits (out of the number required for graduation) given the number of semesters they have spent in high school?

Whether or not they are learning their core subject areas

What percentage of our students scored at proficient levels or higher on their last assessment of Language Arts, math, social studies, and science?

What percentage of our students scored at lowest levels in Language Arts, math, social studies, and science on their last assessment?

Whether or not they prepare for, enroll in, and complete two or four year colleges after graduation

What percentage of our students are taking college entrance exams, i.e., the ACT?

What percentage of our students score above average on college entrance exams?

What percentage of our students enroll in two or four year colleges after graduation?

What percentage of our students complete two or four year colleges after graduation?

Developing System Leadership

For purposes of the reform, IRRE defines system leadership as “the capacity of the system to plan, implement and strengthen FTF’s implementation strategies (Connell, 2003).” FTF organizes these capacities into five leadership areas: How do all leaders in the system: (a) set and articulate clear expectations for the reform effort; (b) personify commitment to the reform; (c) provide timely and effective supports to others in the system; (d) monitor and report progress; and (e) recognize others’ accomplishments and intervene when necessary to ensure progress?

Building on internal capacities with districts and schools, FTF strengthens leadership capacity throughout each school and district to engage in these activities around each of the three implementation strategies. For example, using the MWM measurement tools, IRRE works with district and school administrators as well as instructional supervisors, coaches and content area leaders to:

- Learn how to monitor and report progress on instructional improvement;
- Use these data to guide interventions with struggling teachers; and
- Recognize teachers’ and administrators’ successful practices.

IRRE is currently developing tools to help districts and schools create an “administrative profile” and coaching strategy for each school that ensure each member of the school’s administrative team knows and enacts their roles in support of FTF implementation and contributes to the smooth functioning of the school.

With this overview of the First Things First framework, we can now look back at how this education reform framework grew out of, and continues to be shaped by, basic theory and research on human motivation.

Motivational Roots of First Things First

The intent of First Things First is to create conditions in schools and school systems (for students and adults) that most powerfully support their meeting three fundamental psychological needs: competence, autonomy and relatedness. These three needs are the cornerstone of Self-determination Theory (SDT) as developed by the Human Motivation Research Group (Connell & Wellborn, 1991; Deci & Ryan, 2000). For students, FTF looks to create conditions that increase their sense that they know what it takes to do well in school and can pull it off (competence) (Deci, 1975; White, 1959), that give them an important role in shaping their own learning – learning aligned with things they see as important and worthwhile (autonomy) (de Charms, 1968; Connell & Ryan, 1989) and that let them know they are connected to other people in school (peers and educators) and at home (family) in ways that support their learning and development (relatedness) (Baumeister & Leary, 1995; Grolnick & Slowiaczek, 1994; Ryan, 1995).

According to SDT, with these needs being met, students should engage emotionally, behaviorally and cognitively in the work of school and, by doing so, do better, like school more and stay with it even when challenged. When these needs are not met, students will become disaffected – avoid cognitive challenges, withdraw emotionally or act out and do as little as possible to get by (Connell & Wellborn, 1991). With disaffection comes decreases in attendance, drop-out, and poorer academic performance; with engagement, students are more

likely to show up, graduate and perform better academically. These hypotheses drawn from SDT have been supported repeatedly in empirical studies of diverse student populations at elementary, middle and high school levels using measures specific to SDT (Reeve et al., 2004) and instruments and methodologies drawn from other theoretical perspectives as well (de Charms, 1976; Harter, 1982; Skinner, 1996).

Returning now to the “conditions” in schools and school systems that can promote or undermine students’ motivation and learning, SDT hypothesizes that three aspects of students’ experience in school are critical. Do schools provide their students:

- High, clear and fair expectations, and effective supports to meet them (structure);
- Opportunities to make meaningful choices in school and to make meaning of their experiences in school (autonomy support); and
- People (adults and peers) who know, respect, trust and care about them

Again, a significant body of literature exists that confirms these and closely related dimensions of schooling make a difference in students sense of competence, autonomy and relatedness; their engagement; and their doing what it takes to finish school and perform well academically (Grolnick & Ryan, 1987, 1989).

Over the past 12 years, through the work of IRRE, the FTF framework has evolved from these basic tenets. This work has articulated the changes needed in school structures and functions to strengthen these three conditions in support of student motivation, engagement and learning.

The theory and research that initially inspired FTF focused on students – their experiences in school, their motivation, and their engagement and learning. However, as described above, the

current FTF framework also includes processes that support individual -, school- and system-level change in adult behavior. This extension of FTF has been shaped by:

- 1) What earlier reform frameworks and their results showed were practices tied to improving the structure, autonomy support and involvement experienced by students in school;
- 2) What our motivational theory and research (and other related literatures) had to say about engaging adults to change their own and their systems' behavior and beliefs about schools and schooling; and
- 3) What IRRE and our partner schools and districts did that seemed to work or not work to produce desired change in students' and adults' motivation, engagement and learning.

We will now share several key findings about the efficacy of FTF with respect to improving elements of the “student” theory of change shown in Figure 1. We will also provide a preview of future research currently in the planning stages.

Summary of FTF Results

Evidence for the efficacy of FTF comes from two studies that examined high schools in five districts where FTF has been implemented. In one quasi-experimental evaluation funded by the Department of Education (OERI/IES), MDRC (Quint et al., 2005) used interrupted time-series analyses to investigate the impact of FTF in five districts in varied stages of implementation. Comparison schools were selected for each intervention site, matched as closely as possible on pre-intervention test scores and other variables such as school size, racial/ethnic make-up, and percent of students eligible for free or reduced-cost lunches. Where appropriate measures were available, statistical models controlled for student characteristics such as previous test

scores, gender, race/ethnicity, overage for grade, limited English proficiency, and special education status. Students were assigned to these schools based on location of residence, reducing the possibility of self-selection into intervention or comparison schools.

The other evaluation, done by Youth Development Strategies Inc. (YDSI) (Gambone et al., 2004) examined 12 secondary schools and 30 elementary schools in Kansas City, Kansas (KCK), and also used a quasi-experimental approach. YDSI researchers examined within-building, within-cluster (high schools and their feeder middle and elementary schools) and across-cluster changes over three years of implementation and for selected outcomes. This study also compared KCK students to state-wide comparison students on several of the outcome variables. YDSI researchers used a multi-level, multivariate logistic regression approach. Subsequent secondary analyses of the YDSI data have examined the impact of SLC participation on student experiences of teacher expectations and support, and on engagement, attendance, and performance on high-stakes assessments (Connell, Kemple, Klem, Legters, Eccles, 2005). The remainder of this section will summarize the findings of these studies focusing on FTF's impact on supportive relationships and student engagement, persistence and commitment, achievement and closing the achievement gap.

We also report findings from a recent cost/benefit analysis of FTF (Levin, 2006), which looked at the financial return to society of the increased graduation rates produced by FTF.

Also included in the **Achievement** section below, are recent findings from an analysis completed by IRRE's Research and Measurement Department. This analysis used publicly available data on eight schools in Texas implementing FTF strategies to compare pre-implementation and post-implementation achievement in reading and mathematics

Engagement and Relationships

The YDSI study found significant increases in survey measures of student perceptions of teacher support tapping the three conditions of structure, autonomy support and involvement and marked improvements in student engagement over the course of FTF implementation in the KCK school district. The strongest observed impact of FTF on student engagement was found for those who typically have the lowest levels of engagement – high school students. Kemple’s analysis of KCK data in the context of SLC influence on ninth graders found that ninth-grader engagement dramatically improved after three years of SLC implementation. Gambone et al. found that there were also significant declines in the number of students at all levels who were highly disaffected with school.

Students who reported that they experienced high levels of teacher support also were more likely to meet the district standard for attendance. Gambone et al. concluded that students who felt supported and cared about by their teachers were more engaged in school and that this association between relationships and engagement was strongest for secondary school students. Most importantly, the researchers found that students who felt supported by their teachers and were more engaged in school as a result were also much more likely to score proficient or above on both the state math and reading assessments. Kemple’s further analysis of Gambone’s data supports this conclusion and also found that ninth graders with more years of experience in SLCs were much more likely to report that (a) their teachers hold high academic and behavioral expectations for them and (b) they have stronger positive relationships with their teachers compared to before SLC implementation.

Commitment and Persistence

Gambone, et al., Quint, et al., and Kemple, et al., each found significant increases in student attendance during FTF implementation. Gambone found significant reductions in the probability of students falling below district attendance standards. Improvements in attendance were greatest among high school students. Gambone et al., report that at the high school level the likelihood of students meeting or exceeding district attendance standards more than doubled. (p. 81). Kemple et al. found that the likelihood of KCK ninth graders meeting or exceeding district attendance standards increased dramatically as high schools had more experience implementing SLCs meeting FTF's implementation standards. He also notes that based on Gambone's data, "students who transferred schools during ninth grade and did not experience the continuity provided by the SLC were significantly less likely to attend school regularly (pp. 33-34)."

Gambone et al., also found small but significant changes in the likelihood of graduating and significant reductions in the likelihood of dropping out in KCK. Students in graduating classes with more years of FTF were significantly more likely to graduate than were students in classes with less FTF exposure. For example, students in the graduating class of 2002-2003 were between 20 percent and 27 percent more likely to graduate compared with the class of 2000-2001^v. Quint et al.'s analysis of graduation rates for ninth grade cohorts found "double-digit increases" in FTF high schools and significantly larger improvements in graduation rates compared to non-FTF comparison schools (p. 84).

Gambone et al.'s analysis of drop out rates found marked declines in schools implementing FTF. The author's note that in one of the high schools studied, "after four years of FTF implementation, students were about 70 percent less likely to drop out of school. That means

that for every 100 students who dropped out in the baseline year, only 30 would have dropped out after four years of implementation (p. 93). Quint et al.'s study using a different analytic approach found similar results and estimated that FTF schools had significantly larger reductions in drop out rates when compared to non-FTF schools in three of the four years (years two, three, and four) following FTF implementation (pp. 82-84).

Achievement

Results from 2000-2004 studies. For Kansas City, Kansas (KCK), the site of the first FTF intervention, MDRC researchers concluded that First Things First schools “registered large gains on a wide range of academic outcomes that were sustained over several years and were pervasive across the district’s schools; similar gains were not present in the most comparable schools in the state.” (p. iii). Hierarchical models comparing FTF schools in KCK to comparison schools in the state indicated significant improvements in reading and math for FTF schools across the intervention years. For example, in 2004, the rate of students scoring proficient or above in FTF schools had increased by 23.1 percentage points over baseline, which was significantly greater than comparison schools. The YDSI study of FTF in KCK reached similar conclusions about FTF’s efficacy. Specifically, YDSI researchers found that the likelihood of KCK students to score proficient or above on both the state reading and math tests significantly increased and the likelihood of students to score at the lowest levels of proficiency decreased. Gambone et al. report, “not only did the district as a whole show more improvement on the state test than did the rest of the state, but the gap between minority and non-minority groups also closed faster in KCK than it did in the rest of the state.”

MDRC also found strong evidence for FTF's efficacy in Lee High School, Houston, which began implementing FTF in 2001. In 2003, Texas introduced a new, much more difficult state reading test, and passing rates across the state declined substantially^{vi}. At Lee High School, the passing rate declined by 12.5 percentage points less than in its non-FTF comparison schools (a statistically significant difference). In 2004, as standards for passing were again raised, the passing rate at Lee High School declined by 8.8 percentage points less than at comparison schools (also statistically significant). Findings for math suggest a similar pattern, though the effect was not as strong as in reading.

Two small rural districts in the Mississippi Delta also introduced FTF in 2001. Both FTF and comparison schools showed gains during each year of the study on the state's 10th grade English II test. MDRC found the gains for the FTF schools to be 12.9 percentage points higher in the first year and 8.4 percentage points higher in the second year relative to comparison schools. However, the analyses lacked power due to the very small number of schools, so these notable gains were not statistically significant.

Recent results from high schools in Texas. Approximately 14,500 students attended eight schools in four Texas school districts during in academic year 2008-9 where First Things First strategies were being implemented for the second year following a year of planning and capacity building.. Over 75% of students attending these schools were minority students from economically disadvantaged backgrounds. Publically available data from the state department of education were collected by IRRE's Research and Measurement Department to compare these schools' reading and mathematics test scores in the four years before implementation of FTF reform strategies to the two years since implementation.

Table 1 in the Appendix summarizes the two year gains for each school on the Texas Assessment of Knowledge and Skills (TAKS) assessments. These data showed that:

- All of these schools improved in both reading and math over the last two years relative to their pre-implementation scores;
- Three of the eight have achieved double digit gains in reading and math;
- Seven of the eight have shown double digit gains in either reading or math
- About **1400 more** students in these Texas high schools have achieved proficiency or higher in reading and almost **2000 more** in math compared to the four years before implementing these FTF strategies.

Closing the Achievement Gap

There is evidence from Kansas City, KS (KCK) that while White, African American, and Latino students all benefited from the FTF intervention, students of color benefited more. Gambone et al. compared improvements in reading, math, attendance, and graduation for different racial/ethnic groups and different income groups. Improvements in reading and math scores showed that students of color in KCK were closing the gap with White students at a greater rate than in the remainder of the state. At the end of the evaluation, Latino students in KCK were almost twice as likely to score proficient or above on the state reading test, relative to baseline. African American students were about 30% more likely to score proficient relative to baseline, and White students were about 10% more likely. The gains across the state were far lower for each group. In math, the KCK gains were also dramatic: for Latino students, the likelihood of scoring proficient or above increased by 60% relative to baseline; for African-American students

it increased by about 40%; and for White students it increased by 35%. Thus, while all groups improved, the achievement differences between groups grew smaller.

For attendance, Latino students also showed the greatest gains during the FTF period (more than twice as likely to meet districts standards for attendance), followed by White students (81% more likely), followed by African American students (43% more likely). Similarly, students who were eligible for free or reduced-price lunch were closing the gap on reading with their more affluent peers at a greater rate than in the state as a whole. In math, however, these economic group differences were not detected.

Economic Benefits of FTF

A recent study (Levin, 2006) examined the economic benefits of FTF's impacts on student graduation relative to the costs of implementing the reform. The study findings include:

- For each 100 students participating in FTF schools *an additional 16 students* will graduate who would not have graduated otherwise
- The incremental cost of each additional graduate *is the lowest for FTF of any reform approach* the authors surveyed;
- The incremental expenditures of public dollars on FTF would be recouped several times over because:
 - High school graduates *earn significantly more income* and thus pay more in taxes than do high school dropouts;
 - High school graduates *use less than half as much public funding* for their health-care needs as do high school dropouts; and

- High school graduates *use significantly fewer public resources* than do dropouts, due to their lower participation in criminal activities, lower rates of incarceration, and lower welfare use.

The analyses by Levin and colleagues concluded that *for each dollar spent on FTF, the benefit to society is \$3.54* (adjusted for inflation)—that’s a 254% net return on investment.

What’s Next for First Things First?

Prior evaluation results indicate that strong implementation of the entire FTF framework is cost effective and is associated with positive change in important student outcomes. IRRE’s challenges now are: to increase the size of these effects; to do so in more places, especially those that need it most; to help others to build the capacity to produce similar results; and to provide even more compelling evidence on the impacts of FTF’s components, alone and in combination. In pursuit of these goals, IRRE and its research partners are committed to continue refining our change processes and supports based on theory, research and experience and to use even better methods for testing their effectiveness.

In closing, we describe a new research opportunity for First Things First that builds upon the descriptive and evaluative research now informing the development and refinement of this framework.

Ongoing Research on FTF Strategies

Previous evaluations of FTF were based on quasi-experimental designs (Quint et al., 2005; Gambone et al., 2004). While rigorous in terms of statistical controls and methods, these studies did not incorporate randomization of schools and their pre-implementation baseline measures of student achievement were not always taken before any implementation had

occurred in the FTF schools^{vii}. While the results found in the Gambone, et al. and Quint, et al. clearly support the effectiveness of FTF strategies, they still are subject to competing explanations without randomization and fully comparable pre-implementation baseline measures.

A team of university-based researchers has been funded by the Institute of Education Sciences (IES) to conduct a randomized field trial of instructional improvement strategies utilized in FTF.

The first cohort of 8 schools began participation in August 2009 in this study called *Every Classroom, Every Day* (ECED). When completed in 2012, this will be the first school-level randomized trial study of multi-faceted high school reform strategies.^{viii} In addition to providing the opportunity for more rigorous evaluation of IRRE's work, this study also marks IRRE's first opportunity to study the impacts of FTF strategies when they are not embedded in the comprehensive FTF framework. *Every Classroom, Every Day* (ECED) investigates the effectiveness of a set of instructional improvement strategies – focused on 9th and 10th grade English/Language Arts and Math – developed and field-tested by IRRE over the past 7 years.

The sample of 24 high schools in the current trial will come from four to five districts.

Participating high schools have at least 200 students each in their 9th grade and significant proportions of economically disadvantaged students. Schools are being randomly assigned within each district to either receive the IRRE-provided instructional supports or not, over a two year period. The primary supports provided to the “experimental group” of schools are: **three professional development (PD) days** for faculty focused on supporting an IRRE-developed literacy curricula; benchmarking training and wrap-around supports in mathematics instruction; **four one-day leadership trainings** to build the capacity of district and building instructional

leaders to support teachers' implementation of new learning from the project; **one 90-minute orientation** to Measuring What Matters for all faculty in the participating schools; **two one-day trainings for instructional coaches in literacy and math** who will provide professional development supports to participating teachers; and **twice monthly two-hour teleconferences** with coaches and each building's lead instructional supervisor will be used to support their real-time coaching work with teachers, talk through emerging issues and help maintain project momentum.

In 2009, eight high schools are participating. Half have been randomly assigned to receive the instructional improvement supports (experimental group of 4 schools), and the other half are receiving no intervention from IRRE (control group of 4 schools). The remaining 16 high schools will be randomly assigned to the same two conditions the following year, with half of the schools being randomly assigned to each condition. The two cohorts of experimental-group schools will receive project supports from IRRE for two years (2009-11 or 2010-12). During the course of the study, districts are permitted to provide the control-group schools with any improvements they would have made had the project's supports not been introduced to the districts. In both cohorts, instructional leaders from within the districts will be trained to provide the enhanced instructional improvement supports to control schools, if they so choose, when the project is complete.

Data collection will be the same in the experimental and control schools. It will include teacher questionnaires once per year, student questionnaires twice per year, EAR Classroom Visit Protocol ratings in 10 classrooms per school at least three times per year, and annual collection of students' test scores, attendance, instructional days missed due to suspension, and progress toward

graduation. The EAR Protocol data will be collected by district-personnel observers and outside research-team observers. The outside observer data will be considered the most important because these observers have no relationships with the schools' teachers and administrators.

The primary aim of the research is to examine the impact of the instructional supports on the math and language arts achievement-test scores of the 9th and 10th graders in the experimental group schools, relative to students in the control-group schools. We hypothesize that the intervention will lead to significantly greater gains in tests-scores among the experimental-group students than the control-group students in math and language arts. Further, we expect that the instruction by teachers in the intervention schools will be rated more highly on engagement, alignment, and rigor than will be the case in the control-group schools, and that the quality of instruction will mediate the relation of the intervention to the achievement-test gains. We will also be examining whether changes in classroom instructional quality are associated with the other student outcomes included in the study.

This landmark study of high school reform engages a diverse set of high schools ranging from chronically underperforming schools to schools trying either to avoid chronic underperformance or to move from marginal to more optimal performance levels. The rigorous testing of the impacts of an integrated set instructional supports on classroom instruction and student achievement should advance IRRE's and the field's understanding of what the necessary and sufficient conditions are to make a meaningful difference in these critical educational outcomes in high schools.

Final Thoughts

The continuous evolution of the FTF framework from its roots in motivation theory and research, to its application in schools and districts across the country, to its careful study by

independent researchers represents an iterative cycle of knowledge development that captures FTF's history and describes its future. IRRE will continue to keep issues of student and adult motivation as core considerations while we refine and develop strategies for instigating and managing change in schools and school systems. We will take these strategies into the field and test our hypotheses about how they should work against what actually happens; and we will invite outside eyes into this process to look at what we're doing, whether it is making a difference, and, if it is, why. Increased attention to our public schools with the new federal investments in their improvement brings welcomed opportunities and increased pressure to learn while we do. Our hope and our intent is that the learning we experience through these knowledge development cycles will translate quickly and directly into better outcomes for America's public schools and the students they serve.

Appendix: Table 1

Results from Eight Texas High Schools Comparing Math and Reading Achievement Before and After Implementation of FTF Strategies

High School	2-Year Gain in Math Scores	2-Year Gain in Reading Scores
Rio Grande Valley, TX		
High School #1	11.5	5.25
High School #2	14.5	9.75
High School #3	18	14.5
High School #4	8.5	8.5
High School #5	12.75	6.5
High School #6	14.75	13.75
Austin, TX		
High School #7	12	13.75
High School #8	5.5	11

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ⁱ Schools currently implementing the full First Things First framework for at least five years include: all schools in Kansas City Kansas Public Schools; and one high school in Houston, TX. Schools implementing First Things First between 3 and 4 years include: six high schools in the Rio Grande Valley, TX; two high schools in Austin, TX; three schools in Milwaukee, WI; and one high school in Los Angeles, CA. Finally, two additional high schools in Milwaukee, WI are in their first or second year of FTF implementation.

IRRE is also providing technical assistance and supports to high schools implementing one or more FTF strategies in 12 high schools in Agua Fria, AZ, Van Dyke, MI, Pasadena, CA, Stockton, CA, Longview, TX, and Pasadena, TX.

ⁱⁱ Much of the text in this section is excerpted from:

Connell, J.P. and Klem, A.M. (2006) *First Things First: What It Takes to Make a Difference*. In R. Smith (Ed.) *Time for Change: New Visions for High School*. Cresskill, NJ : Hampton Press.

^{iv} IRRE continues technical assistance and strategic consultation supports to districts for multiple years beyond initial implementation; the nature and intensity of those activities varies according to implementation progress and success in building district capacity.

^v Because FTF implementation was phased in annually for clusters of schools, graduates in 2002-2003 in the first cluster to begin implementation were in a high school that had implemented FTF for five years. In the second cluster 2002-2003 graduates were in a high school that had implemented FTF for four years. In the third cluster graduates in two high schools had implemented FTF for three years. Depending on how long a given graduate had been enrolled in a KCK and in which graduates in the class of 2000-2001 had either received one, two or three years of education within a high school implementing FTF.

^{vi} The lower percentages of students passing the new versus the old tests district-wide does not imply that students taking the new tests “know less” than those taking the old test – with both item content and scoring criteria for passing changing, no legitimate comparisons of these groups is possible. The only inference possible from the MDRC findings is that students from the FTF high school performed better relative to their comparison schools when examining change in percentages of students passing.

^{vii} The state assessment changed dramatically several years into FTF implementation in two of the major research sites. According to state testing officials the new state assessment scores could not be equated to the former assessment. Consequently, the best the researchers could do was re-establish baseline two years after FTF implementation began. This fact creates a conservative bias to estimates of change due to implementation of FTF because pre-tests were taken in FTF schools after implementation had begun in some schools. Analysis of the former state assessment by the researchers demonstrated that the pre-implementation achievement trend in KCK was not improving; and, comparisons to relevant groups (i.e., other non-KCK schools in the state) did not show KCK with a pre-implementation advantage or closing the achievement gap with the state prior to implementation.

^{viii} This study was the only one to achieve this highest level of approval in the entire competition. The IES research team includes Edward L. Deci, University of Rochester (PI); J. Lawrence Aber, New York University; Jacquelynne S. Eccles, University of Michigan; Russell W. Rumberger, University of California, Santa Barbara; and Richard M. Ryan, University of Rochester.