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Accountability Systems in School-To-Work

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Accountability systems have become embedded in K–12 education in virtually every state. Over the last decade, states have adopted standards-based assessments and implemented, concomitantly, accountability or accreditation systems to report to the public how their school districts/buildings measure up to the standards. In 2002, the Federal government joined the fray with the No Child Left Behind (NCLB) Act. A common element to all of these systems is a focus on student achievement in "core" curricular areas. For example, the NCLB Act mandates assessments in math and reading (with science at a later date) in grades 3 – 8 and in high school.

School-to-work activities have broader objectives than student achievement in curricular areas. In general terms, they are focused on the career development process. These activities impart skills and knowledge that result in more effective career awareness, career exploration, and career preparation. (Of course, academic skills are an important subset.) Because the objectives are broader, accountability is more difficult. This paper discusses the development of an accountability system for the Career Preparation System (CPS) in Michigan, which was that State's extension of activities initiated under the federal School-to-Work Opportunities Act.[1] Under contract to the State, the author designed this system, which was implemented on a statewide basis in 2003. The paper documents the design of the system and explain its rationale, discusses what seemed to work well and what didn't work well in its initial year of implementation, and present some empirical results from analyses of the initial year's data.

Development of a Career Preparation System Accountability System

The Career Preparation System succeeded the state's school-to-work effort and built on that effort's base. The system was intended to achieve the following three goals:

- To ensure that career preparation is fully integrated into the Michigan education system
- To ensure that all students, with their parents, will be prepared to make informed choices about their careers
- To ensure that all students have the types and levels of skills, knowledge, and performance valued and required in their education and career choices

To achieve these goals, the CPS provided funds to local educational agencies (school districts) to implement activities to be offered to all students at all grade levels in one or more of the following nine components:

- Career Pathways

[1] This program effectively ended in June 2003 because of budgetary decisions by the State legislature and Governor. Most local districts continue to offer school-to-work/career preparation system activities, but they are funded out of local funds, and have no accountability mandate.

- Education Development Plans (EDPs)
- Career awareness and exploration
- Authentic instruction
- Career assessment
- Career employability skills
- Comprehensive guidance and counseling
- Technology education
- Work-based learning

The Career Preparation System clearly had a goal of supporting all nine components in all districts, but given limited resources and given that districts needed to traverse a learning curve for how the CPS would support each component, the state allowed some flexibility to the regions (local districts were organized into 25 regions across the state) to select their own priorities. Two components were deemed state priorities: Career Pathways and Education Development Plans. Regions were required to offer activities in these components, but then regions could select one or two other components as priorities if they so chose.

The original legislation establishing the CPS called for the establishment of an accountability system to ensure that public funds were being invested prudently.[2] The impetus for the development of the accountability system described here was a program audit of the CPS that criticized the state administrative department for not having established a comprehensive accountability system.[3]

Several fundamental issues that confound the problem of assigning accountability to individual school districts for the outcomes emanating from their participation in Career Preparation System components are the following:

- Local districts choose the components and activities in which they participate, and those components and activities differ across districts

- Program outcomes are influenced by a myriad of factors over and above the direct program activities offered; for example, outcomes depend on student characteristics, building and district-level characteristics, employer interest and involvement, and the local economy

- Program outcomes vary over time as districts traverse their learning curves, and make decisions about resources and activities. The same level of program offerings and resources in one year may have quite different outcomes from what occur given those same levels of resources two years later

[2]Subsection (4) of Section 388.1668 of P.A. 94 of 1979, as amended in 1997.

[3]Michigan Office of the Auditor General, May 2002, "Performance Audit of the School-to-Work and Career Preparation System," pages 31–35.

- Program outcomes are difficult to measure, and so indicators of success have to be developed

The starting point for developing an accountability system involved constructing a formal "Program Logic Model." This model disaggregated the educational system into 4 levels: Elementary grades (K–5); Middle school grades (6–8); High school grades (9–12); and post-high school education or training. For each of the three K–12 levels, the logic model identified "Outputs;" "Intermediate Outcomes;" "Outcomes;" "Indicators;" and "Measures." In the parlance of logic models, "outputs" are activities undertaken to deliver instruction or information to students within a component. For example, an output at the elementary grades level for career awareness might be to have guest speakers from different career backgrounds discuss their careers. An output at the high school level for Education Development Plans might be having students annually review and update their EDP. The "intermediate outcomes" are the responses to the stimuli of the outputs. They represent the students' engagement with the outputs. The intermediate outcomes for the elementary guest speakers would be the career knowledge that the students gained from the speakers. The intermediate outcomes for high school students updating their EDPs would be the annual consideration by students and parents of the relevance of courses for the students' career plans.

"Outcomes" are the desired skills, knowledge, or behaviors that the system is attempting to impart. Outcomes include behaviors such as making career choices based on career assessment results or based on information learned in a work-based learning situation. Accountability might be defined as holding administrators responsible for the extent to which system interventions, i.e. outputs, result in positive outcomes. "Indicators" are events or behaviors that are thought to be correlated with outcomes. Indicators are necessary when outcomes are not directly observable or measurable, or when outcomes occur in the future beyond the time frame of interest. For example, an outcome of the EDP process is parent/family familiarity with the education and training plans that their students have in order to achieve their career goal. An indicator of this outcome is parent endorsement of an EDP. An outcome of career pathways is that students know and take the course work that prepares them for their career goals. An indicator is the number of remedial/developmental courses that a student takes in a postsecondary setting.

Finally, "measures" are constructs that gauge the extent to which indicators or outcomes have been achieved. Measures may quantify a performance level at a point in time, or they may quantify changes over time. Generally measures of performance can be compared to standards to provide normative conclusions as to whether adequate progress has been made. Note again that standards can be set for levels or changes over time.[4]

[4] This logic model is fairly general and can be applied to a wide set of products or services. For example, an automobile company may have the goal of producing high quality cars that satisfy customers. Its output consists of the production of certain makes of automobiles that have certain sets of characteristics. The intermediate outcomes might be consumer knowledge or savvy gained from advertising or other consumer information about the automobiles. Another intermediate outcome might be consumer reaction from test driving the vehicles. The outcomes for which the company is accountable are vehicle quality and customer satisfaction. Indicators of these outcomes might be maintenance records and market share. Measures would be "the percentage of cars that undergo non-routine maintenance in the first year of ownership" and "the percentage of new car sales that are of this particular make."

Project staff and staff from the state funding agency decided to present this logic model to representatives from the field (referent group) to get feedback on its viability. The strategy, as planned, involved three meetings: the first meeting would focus on the outcomes; subsequent meetings would focus on the measures and standards.

Unexpected, but valuable, input was gathered from the initial meeting of the referent group. The program logic model didn't "fly." The individuals, who were the practitioners out in the buildings dealing with students, held the following:

- Classifying outcomes by levels is not appropriate because local districts want the flexibility to design and implement activities that fit within their existing curricula; in other words, don't hold local districts accountable for outcomes by grade levels;

- Local districts have extremely scant and tight budgets, so any data collection must be minimal; use existing evidence such as EDPs and annual benchmarks that are required for administrative reporting; and

- Districts want to be held accountable for processes in addition to outcomes; i.e., they want credit for implementing successfully their planned activities.

The program logic model was subsequently revised in several ways. We aggregated outcomes across the levels and significantly reduced the number of outcomes per component. Furthermore, we built some process measures into the system. The accountability system would rely on five sources of data: a review of student EDPs; a 12th grade exit survey; a follow-up survey of graduates; annual CPS reports that indicated progress toward planning benchmarks; and other local district data that would be generated for Michigan's school accountability system, titled Education YES!

A second meeting of the referent group was held to focus on the measures and to set performance standards for the various measures. The main conclusion that came out of this meeting was the cost, and possible infeasibility, of a general follow-up survey of graduates, which we had been proposing to measure some of the system's outcomes. Furthermore, the group continued to press for more emphasis on process and less on outcomes. Members of the group also expressed serious concern about having to provide data about program components that were not priorities in their region.

We further revised the system to remove the follow-up survey, and refined the accountability system to begin to look like its final form as described in the next section of this paper. In lieu of a third meeting of the referent group, we convened a group of evaluation and educational measurement experts from across the state. That group made many suggestions to help refine the measures and system that had evolved by that time. The group seemed to reach consensus that the two new data collection efforts being proposed—a review of 10th grade EDPs and a short (exit) survey of 12th grade students—were feasible and minimally burdensome.

Furthermore, attendees suggested that the CPS accountability system could be used for NCA Transitions Accreditation purposes, which helped to sell the system to local districts.

The system was revised in response to the Measurement Team's technical comments, and pilot tests were held of the 10th grade EDP review process and the 12th grade survey. A final meeting of the referent group (together with members of the measurement group) was held. The group had much discussion about the system described in the next section of the report, but the group generally endorsed it.

Specification of the Career Preparation System Accountability System

The accountability system that emerged from the initial logic model and interaction with individuals from the field was intended to analyze the impact of the components of the Career Preparation System on students across the state. It was also intended to help local districts assess their performance relative to standards in the areas of Career Pathways, Educational Development Plans, and additional components, if any, they had chosen. Appendix A presents the accountability system in detail. The unit of measurement for the system is the district. The accountability system calculates a "score" for each local district for each of the nine components of the CPS. (Local districts were only held accountable, however, for the state and regional priority components.) The scoring is done with a fairly straightforward algorithm that gives a district "full," "partial," or "no" credit depending on how its accountability measures relate to pre-determined performance standards.

The system assigns each district a score between 0 and 100 for each of the nine components of the Career Preparation System (for a total of 900 points). For each component, 40 percent of the score is based on "process" and 60 percent is based on "outcomes." The process points were derived from self-reported data concerning the progress that the district was making toward implementation benchmarks set by the state. The outcome points were derived from three sources of data: a review of the EDP forms completed by 10th graders, a "paper and pencil" survey completed by 12th graders, and data supplied to the state accountability system.[5]

Process Measures. Every district that participated in the CPS was required to complete a Benchmark Summary Report as part of its annual administrative reporting. This form asked for self-reported progress on the implementation of activities for each of the nine components. In particular, districts used the rubric in Figure 1 to report progress in implementation of the components. Appendix B provides the precise wording of the benchmarks that are reported in the Summary Report.

[5] The design of the system called for a total of 60 points (out of the 900 possible) to come from data from Michigan's accountability system. In the first year of implementation, the State's accountability data did not get completed by districts, and so the outcome points in the CPS accountability system were derived solely from the 10th grade EDP review and the 12th grade survey and the total number of points was reduced to 840.

Figure 1 Benchmark Summary Report Rubric

Level 5 - Evaluation/Improvement: A benchmark was given a status code of '5' if there is evidence that every aspect of a benchmark has been met; with all students, including a full range of activities at every level for all students and the district is engaged in ongoing evaluation and continuous improvement

Level 4 - Fully Implemented: A benchmark was given a status code of '4' if there is evidence that every aspect of a benchmark has been met, with all students, including a full range of activities at every level for all students.

Level 3 - Partially Implemented: A benchmark was given a status code of '3' if there is evidence that some but not all aspects of a benchmark have been met, aspects of the benchmark have been met with some, but not all students, or incomplete, rather than full achievement of one or more aspects of the benchmark.

Level 2 – Development: A benchmark was given a status code of '2' if there is evidence that the agency engaged in planned activities, but has not yet achieved any aspect of the benchmark by the end of year.

Level 1 – Planning: A benchmark was given a status code of '1' if there is evidence that the agency participated in Career Prep during the year but activities were limited to research, investigation, organization and planning and there was no achievement of any aspects of the benchmark during the year.

Level 0 - No Implementation Planned during the year: A benchmark was given a status code of '0' only if the agency participated in the Career Preparation System during the year, but no activities were planned or implemented toward achieving this benchmark using any source of funds and there was no achievement of any aspects of the benchmark during the year. This code was used most often where the activity category was not a priority for this district during the year.

Not Applicable
Some benchmarks are not applicable for districts with fewer than grades K through 12. These benchmarks are coded 'not applicable' for that district.

Not all of the self-reported benchmarks were used in the accountability score computation. Only the benchmarks in Appendix B that are in bold were used. The first benchmark for each of the components had districts report whether the local Board of Education had approved an implementation plan in the district for this component. An accountability score of 10 points was awarded to districts for each component if this benchmark was at least a 4. A score of five was awarded if the benchmark was a 3, and a score of 0 was awarded if the score was less that 3 or not applicable. With only one exception, the computation relied on two other benchmarks for each of the components. For these benchmarks, a 15 was awarded if the

benchmark was at least a 4; a 10 was awarded if the benchmark was a 3; a 5 was awarded if the benchmark was a 2 or a 1; and 0 points were awarded if the benchmark was less than 1 or not applicable. The exception was for technology education. For this component, 15 points were based on benchmark 6 and 15 points were awarded based on the arithmetic average of benchmarks 2 to 5.

So the process portion of the accountability score for each of the components had a maximum of 40 points; one benchmark had a 10 for a maximum score; and two other benchmarks had 15 for a maximum. Table 1 summarizes how the benchmarks were scored.

Table 1 Scoring of Benchmarks

	Level	**Points**
Benchmark 1	4+	10
	3	5
	< 3	0
All Other Benchmarks (Except Tech Ed Benchmarks 2 through 5)	4+	15
	3	10
	1, 2	5
	0	0
Ave of Tech Ed Benchmarks 2 through 5	3.5+	15
	3.0–3.49	10
	2.0–2.9	5
	< 2.0	0

Outcome Measures. The remaining 60 percent of a component's accountability score depended on outcomes as measured by two data collection efforts: an EDP Review and a Career and Employability Plan Report (CEPR). Districts that participated in the Career Preparation System were expected to have all students in high school develop and use an Education Development Plan (EDP). This is a document that records students' career and education plans and course selections. The accountability system required districts to draw a random sample of all 10th grade students and to review the EDPs of those students.[6] The reviewers examined each EDP for specific elements including personal information, career goal including a career pathway, education/training goal(s), career assessment results, a plan of action, and parent signature or endorsement. Reviewers also recorded work-based activities and career assessment information found either on the EDP or documented in another location. Scoring of the EDP review depended upon both the number of students for whom EDPs could be located and the number that had the required elements present on their EDPs.

There were two performance thresholds for the EDP Review. The first was for the percent of students who had EDPs (the EDP response rate), and the second was for the percent of EDPs that had each key EDP element (the EDP element rate). The performance threshold for the response rate was 90 percent. The performance threshold for the percent of EDPs that had a key

[6] Students who had transferred into the district during the year were excluded from the sample. Many districts chose to review the EDPs of all students, not just a sample.

element varied according to the EDP element being evaluated. For example, the performance threshold for the percent of EDPs that met state standards (had all required EDP elements except the parent endorsement) was 85 percent. Table 2 shows the EDP element rates (performance thresholds) for each EDP element.

Table 2 Performance Thresholds for Each EDP Element

EDP Element	Performance Threshold
Percent of EDPs with a career goal, including career pathway	85%
Percent of EDPs that meet state standards (except for parent endorsement)	85%
Percent of EDPs with parent endorsement	60%
Percent of EDPs or supporting documentation accessible to students and parents demonstrating evidence of work-based learning experiences	50%
Percent of EDPs or supporting documentation demonstrating evidence of career assessment results accessible to students and parents	85%

How a district did relative to the performance thresholds created a statistic called *percent of threshold attainment.* If the district's response rate met or exceeded the performance threshold for the EDP response rate (90 percent or more of the sample of 10th grade students), the percent of threshold attainment for the EDP response rate was 100 percent. If the response rate did not meet the performance threshold of 90 percent, we divided the response rate by the performance threshold to obtain the percent of threshold attainment. If the district met or exceeded the performance threshold for an EDP element (see table 3), the percent of threshold attainment for that EDP element was 100 percent. Otherwise, the percent of threshold attainment for a given EDP element was the percent of EDPs with the element in question divided by the performance threshold. EDP measures were weighted as shown in Table 3.

Table 3 Weights for EDP Measures

Measures using Elements on EDP	Weight
Career pathways	20
EDPs meeting state standards	20
Work-based learning	20
Career assessment	20
Parent endorsement	10

Equation (1) shows the scoring used for each of the EDP review measures. The score is simply the product of the weighting factor (20 or 10) times the response rate percent of threshold attainment times the percent of threshold attainment for the EDP element. For example, if District A has a sample of 50 students and 47 of them (94%) have EDPs, and all 47 (100%) of the EDPs have a career goal with a career pathway, the score for the career pathway EDP measure for District A is 20 x 1.0 x 1.0 = 20 (full points). If District B also has a sample of 50 students but only 35 of them have EDPs (EDP response rate = 70%) and only 28 of the EDPs have a career goal with Career Pathway (80%), the score for the Career Pathway EDP measure for District B is 20 x (70/90) x (80/85) = 14.6 points out of 20 possible points.

(1) Points = W * RespAttain * ElemAttain,

where Points = Score for EDP element

W	=	Weight (table 3) for EDP element
RespAttain	=	Percent threshold attainment for the EDP response rate
ElemAttain	=	Percent threshold attainment for the EDP element

The Career and Education Plans Report (CEPR) was intended to be completed by every graduating senior in participating districts (with exceptions such as transfer students, special education students, and students who could not read English.) The CEPRs included 16 items asking 12th grade students how helpful components of the Career Preparation System were to them in course taking decisions and in making decisions about careers and education after high school. Students answered each item by indicating whether they agreed, tended to agree, tended to disagree, or disagreed. Students were instructed to mark 'not applicable' for any item that did not happen in their school district (e.g. career pathways were not used). Scoring of each CEPR item depended upon both the percent of valid CEPR forms returned (response rate) and the percent of responses with responses that either 'agreed' or 'tended to agree' (percent agreement). Note that percent agreement was based on all responses (including "not applicable" responses).

The performance threshold for the response rate (percent of valid forms returned) was 80 percent. The performance threshold for the percent agreement varied with each measure. For example, the performance threshold for the percent agreement with the CEPR item "Career Pathways helped me decided what classes to take during high school" was 80 percent. Table 4 shows the performance threshold for percent agreement for each CEPR item.

If the district's response rate met or exceeded the performance threshold for the response rate (80 percent or more), the percent of threshold attainment for the response rate was 100 percent. If the response rate did not meet the performance threshold of 80 percent, we divided the response rate by 0.80 to obtain the percent of threshold attainment. If the district met or exceeded the performance threshold for percent agreement on a CEPR item, the percent of threshold attainment for that item element was 100 percent. Otherwise, the percent of threshold attainment for that item was the percent agreement as measured divided by the performance threshold. The CEPR measures were weighted as shown in Table 5.

Equation (2) shows the scoring of the CEPR measures. The score is simply the product of the weighting factor (ranging from 15 to 60) times the response rate percent of threshold attainment times the percent of threshold attainment for the EDP element. For example, if a district had 100 12th grade students enrolled in the fall, 94 of them returned valid CEPR forms, and 82 percent marked 'agree' or 'tend to agree' for question 7 ("My school organized classes into career pathways and I chose a pathway(s) that helped me decided what classes to take during high school"), the score for the Career Pathways CEPR measure utilizing item 7 is 20 x 1.0 x 1.0 = 20 (full points). If only 75 students returned valid CEPR forms (response rate = 75 percent) and only 50 percent marked 'agree' or 'tend to agree' for question 7), the score for the Career Pathways CEPR measure is 20 x (75/80) x (50/80) = 11.7 points out of 20 possible points. Note that both the response rate and the percent agreement are divided by their respective performance thresholds.

Table 4 Performance Thresholds for CEPR Items

Career Preparation System component	CEPR item	Performance threshold for percent agreement
Career Pathways	Career Pathways helped student decide what classes to take during high school—Question 7	80%
	Career Pathways helped student decide Career and Education Plans after high school—Question 8	60%
EDP	EDP helped student decide what classes to take during high school—Question 9	80%
	EDP helped student decide Career and Education Plans after high school—Question 10	60%
Career Exploration	Career Exploration helped student decide what classes to take during high school—Question 5	60%
	Career Exploration helped student decide Career and Education Plans after high school—Question 6	80%
Authentic Instruction	Teachers used real-life examples that helped student understand the material—Question 1 [Authentic Instruction]	80%
	Student participated in a project in school presented to/judged by an adult other than teacher—Question 2 [Authentic Assessment]	80%
Career & Employability Skills	School taught teamwork, problem solving, organizational skills, good attendance, other 'employability skills'—Question 4	80%
Work-Based Learning	Activities at workplace or business helped student decide what classes to take during high school—Question 13	60%
	Activities at workplace or business helped student decide Career and Education Plans after high school—Question 14	80%
Technology Education	Student made things and solved real-world problems by using knowledge, materials, tools, machines and skills—Question 3	80%
Comprehensive Guidance & Counseling	School's counseling program helped student decide what classes to take during high school—Question 15	80%
	School's counseling program helped student decide Career and Education Plans after high school—Question 16	80%
Career Assessment	Career interest or aptitude tests helped student decide what classes to take during high school—Question 11	80%
	Career interest or aptitude tests helped student decide Career and Education Plans after high school—Question 12	80%

Table 5 Weights for CEPR Items

Career Preparation System Component	Weight for each CEPR item
Career pathways (2 items)	20
EDPs (2 items)	15
Career awareness & exploration (2 items)	30
Authentic instruction	30
Authentic assessment	20
Career & employability Skills (1 item)	30
Work-based leaning (decide what classes to take—question 13)	15
Work-based learning (decide education and career plans after high school—question 14)	25
Technology education (1 item)	60
Comprehensive guidance & counseling (2 items)	20
Career assessment (2 items)	20

(2) Points = W * RespAttain * ElemAttain,

where Points = Score for CEPR element
W = Weight (table 5) for CEPR element
RespAttain = Percent threshold attainment for the response rate
ElemAttain = Percent threshold attainment for the CEPR element

Total Accountability Score. Each Career Preparation System component score was computed by summing the scores of all of the measures for that component. In the original design and specification for the accountability system, the intent was to set a threshold for each component. Districts with component scores above the threshold were to be declared "Accountable" for that particular component; otherwise the district would be declared "Progressing toward Accountability." In future years, the thresholds would be increased. This labeling was not done in 2003 for political reasons. Instead, reports of the accountability scores like the example given in Figure 2 were sent to each district and region of the state for the Career Pathways and Educational Development Plan components. The State maintained the data for all of the components, however, and we conducted some rudimentary statistical analyses with the data.

In the example report (Figure 2), the top section of the report lists the name and district code for the district covered by the report. Below the district identifying information the report lists the number of 12th grade students reported on the fall enrollment report (# Grade 12 Students) and the number of valid Career and Education Plans Reports (CEPRs) returned for the district (# 12 CEPR). In the next column, the size of the EDP sample is listed (# Grade 10 EDP Sample). This value is determined by the sampling procedure used to select EDPs for review. In

this case, the enrollment in 10th grade was small; so a 100 percent sample was required. Below that sample size is the number of EDPs found (# Grade 10 EDPs Found).

The first column on the left (column 1) lists the measures used to compute the component score for the component listed. Column 2 (Source of Data) lists the source of the data for each measure (the instrument used to collect the data). Column 3 (Maximum Possible) lists the total number of points possible for each measure and for the total component score. Column 4 (District) lists the total points earned for the district for each measure and for the component total. Column 5 (ISD) lists the average total component score for the districts in the Intermediate School District (ISD). Column 6 (Region) lists the average total component score for the districts in the region. Column 7 (State) lists the state average total component score. Column 8 (District relative to State) indicates the percent above or below the state average for the district.

Figure 2 Sample District Report.

#CP-2000
Parameters Default
Report Name Default

MICHIGAN ACCOUNTABILITY REPORT
CAREER PREPARATION SYSTEM
2002-2003

Michigan Department of Career Development Office of Career and Technical Preparation

District Code 24040 District Name PELLSTON PUBLIC SCHOOLS

Grade 12 Students 39 # Grade 10 EDP Sample 39

Grade 12 CEPR (Surveys) 32 # Grade 10 EDP's Found 39

(1) Component/Subcomponent	(2) Source of Data	(3) Maximum Possible	(4) District	(5) ISD	(6) Region	(7) State	(8) District relative to State
Career Pathways (CP)		**100**	**62.6**	**62.1**	**73.5**	**75.9**	**-17.6%**
Local board adoption	Benchmark 1	10	10 0				
Buildings utilize CP concept	Benchmark 2	15	15 0				
Pathways used to align HS courses	Benchmark 4c	15	15 0				
EDPs have career goals that include Career Pathway	EDP Review (q 3b)	20	0 0				
CPs used to select courses	CEPR (q 7)	20	8 6				
CPs influence career choice	CEPR (q 8)	20	14 0				
Total		100	62 6				
Education Development Plans (EDP)		**100**	**55.4**	**48.1**	**61.0**	**66.0**	**-16.1%**
Local board adoption	Benchmark 1	10	10 0				
Student records show MS/HS buildings use EDPs	Benchmark 2	15	15 0				
HS use EDPs for course selection and postsecondary options	Benchmark 4	15	10 0				
EDPs meet state standards (exc for parent endorsement)	EDP Review (q 4)	20	0 0				
EDPs have parent endorsement	EDP Review (q 5)	10	7 3				
EDPs used for course selection	CEPR (q 9)	15	5 9				
EDPs influence career choice	CEPR (q 10)	15	7 3				
Total		100	55 4				

Note: See report interpretation guide for full explanation of scores.

An (Objective?) Assessment of Implementation

The state government rolled out this system in early 2003. They sent instructions to the districts that were participating in the Career Preparation System that indicated that the districts were to submit the required data by May 1, and that an independent auditor would be verifying the accuracy of the data for a random sample of districts.

Phenomenally, 100 percent of the districts participated. At the time of the data collection, Michigan had 553 traditional (i.e., noncharter schools) local education agencies, of which 523 had enrollments in grades 10 and 12 and participated in CPS[7]. All 523 responded to the accountability system data collection. Furthermore, the State had 199 charter schools,[8] of which 60 had enrollments in grades 10 and 12. Of these 60 public school academies (what charter schools are titled in Michigan), 21 had chosen to participate in CPS, and all 21 supplied data. So the final sample size of districts was 544. All 544 supplied benchmark data.

The districts that supplied data had 839 high school buildings with enrollments in grades 10 or 12. Of these 839 buildings, 670 supplied data concerning the EDPs of 10th graders. All together, information from 45,792 EDPs was collected. Of the 839 buildings, 679 sent in the CEPRs from graduating students. All together, 75,198 usable CEPRs were scanned. Our estimated class size for the entire state for these districts was just under 100,000, so the overall response rate for the CEPRs was about 75 percent.

Under contract to the State, the Upjohn Institute processed all these data and generated district, ISD, and regional reports. The reports for the two required components—Career Pathways and EDPs—and the underlying data were sent to each of the 544 districts. As noted above, the State decided not to assign the labels of "Accountable" or "Progressing toward Accountability." Effectively, the State suggested that the initial year(s) of data collection should be considered as benchmarks, and once distributions were observed, it would be more appropriate to make decisions about accountability cutoff scores.

In addition to the data processing and report generation, project staff developed an Access database with query capability to use different threshold values, performance thresholds, and weights so that the State or an analyst could get a sense of the robustness of the scores.

What Worked and What Didn't Work. Several decisions were made during the development of the system about the process to be used and the design of the system. This section is intended to discuss some of those decisions, mainly for the edification of readers who may be interested in developing an accountability system. But also, a consideration of these issues should help in assessing the value of the Michigan system.

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[7] Of the 553 districts in the State, 524 had enrollments in grades 10 and 12. The other districts were mainly K–8 districts. Several of the K–8 districts participated in the CPS, but because so much of the accountability system was based on information from students in grades 10 and 12, they were excluded from the system. One of the 524 districts with enrollments in grades 10 and 12 had chosen not to participate in the CPS.

[8] In Michigan, a charter school is essentially equivalent to a district.

1. Convening groups of administrators from the districts across the state who would be involved in collecting the data and would potentially be held responsible for the results was invaluable. The referent groups, as we called them, were very knowledgeable about the data that were available at the local level. They made suggestions about simplifying the system that we ultimately accepted. Furthermore, they helped to "sell" the system to other administrators and districts. The only potential downside was their insistence on using process measures instead of outcome measures. Effectively, they wanted to be held accountable for making sure that school-to-work activities were offered; not on the outcomes of those activities. The State's compromise of 40 percent process and 60 percent outcomes was a reasonable compromise that did not alienate the field.

2. A decision that we struggled with during the design of the system was the appropriate unit of measurement or unit of accountability. Most educational accountability systems use buildings. The logical choices were buildings or districts. We chose the latter mainly because the benchmarks that were used as process measures were district-level data. This decision meant that districts with multiple high schools would have a score that is an average. If there were great variability across the buildings, the district's score might not be accurate for any of the buildings.

3. A logistical mistake that we made in the first year of implementation was not to anticipate the number of alternative configurations of buildings and how to handle them. For example, many areas had area career centers where students would spend part of their day. And usually the students would come from multiple districts. Furthermore, many districts had alternative high schools, adult education centers, or high school centers for special education. It seems clear that since school to work is intended for **all** students, we should have tried to include all students. But because the many different configurations had not been anticipated, the instructions were not clear, and so there may be inconsistency in the data in terms of buildings included.

4. Another design decision that we addressed during the development of the system was whether to assign letter grades to districts or to simply report the state averages. Although many accountability systems are using letter grades, we opted, instead, to simply report the averages. This seemed, in retrospect, to be a good decision. Many districts have commented that they prefer this system of benchmarking to be preferable to the letter grades used in Michigan's NCLB Accountability System.

How Are the Component Scores and Data Being Used?

The legislative decision to end State funding of the Career Preparation System obviously had a drastic effect, and so it is difficult to assess the value of the accountability system that is described here. Despite the end of state funding, most districts and buildings are still implementing school to work activities—now funded out of local operational funding. It is even the case that about half of the districts in the State have contracted with the Upjohn Institute to conduct a second year of data collection and analyses so that they can gauge program performance and growth using the same tool.

The author has made presentations to regional oversight boards (in Michigan, we have region Educational Advisory Groups, who are supposed to advise the Workforce Investment Boards (WIBS) about educational initiatives) about their results and how to use the data. In at least one area, the administrators indicated that they wanted to reallocate resources and emphases on the components that fared most poorly relative to the other regions in the State. It was precisely the intent of the system to be able to inform those types of decisions.

Finally, we built into the Access data base the capability to easily export any or all of the data into statistical software. The author performed a principal components factor analysis on the CEPR (12^{th} grade survey) data. Figure 3 shows the resulting output from that analysis. The factor analysis output in the figure indicates five factors, using the criterion of an eigenvalue of 1.0. The factors (at least the first three) seem to be interpretable. The first factor shows loadings for q1 to q4 that are different from (weaker than) the loadings for q5 to q16. An examination of the CEPR shows that questions one through four are a different type of question from 5 through 16 (the latter questions ask for influences on course taking and on careers), so we interpret the first factor as a "question type" factor. The second factor is related to the "career" focus versus the academic focus of the components. The loadings for the second factor contrast components that are directly targeted on careers: career pathways, EDPs, career assessments, and work-based learning to the components that are of a more general, academic nature: authentic instruction, technology education, career awareness and exploration, and comprehensive guidance and counseling. The third factor contrasts the components that are more likely to influence students in their junior or senior year of high school: work-based learning, career assessment, authentic assessment of a project to components that probably occurred much earlier in their education: career awareness and exploration, career pathways, EDPs, and comprehensive guidance.

In summary, Upjohn Institute staff have been heavily engaged in virtually every step of the development of an accountability system for the Career Preparation System since Spring 2002. We reviewed and helped to refine the logic model. We met with groups from the field and made modifications to the logic model and accountability system. We designed and helped to field test data collection forms, and we laid out the specification for an analysis plan that the state could use. It is our belief that the accountability system that has been designed and implemented will be helpful to state or local administrators in monitoring the performance of the system and in identifying ways to improve it. Most importantly, the accountability system will be helpful to local districts as they work to implement the most effective activities within the components of the Career Preparation System to help young people prepare for education and careers.

Figure 3 Output Listing for Factor Analysis

```
                          The SAS System          08:12 Wednesday, February 11, 2004   1

                       The FACTOR Procedure
                 Initial Factor Method: Principal Components

                     Prior Communality Estimates: ONE


          Eigenvalues of the Correlation Matrix: Total = 16  Average = 1

               Eigenvalue    Difference    Proportion    Cumulative

            1  6.23661245    4.67884693        0.3898        0.3898
            2  1.55776552    0.34429806        0.0974        0.4871
            3  1.21346746    0.06259604        0.0758        0.5630
            4  1.15087142    0.12173816        0.0719        0.6349
            5  1.02913326    0.08073438        0.0643        0.6992
            6  0.94839888    0.12457015        0.0593        0.7585
            7  0.82382873    0.13670387        0.0515        0.8100
            8  0.68712486    0.07512775        0.0429        0.8530
            9  0.61199712    0.07034973        0.0382        0.8912
           10  0.54164739    0.07518083        0.0339        0.9251
           11  0.46646656    0.23467881        0.0292        0.9542
           12  0.23178775    0.05761325        0.0145        0.9687
           13  0.17417450    0.04250483        0.0109        0.9796
           14  0.13166967    0.02298367        0.0082        0.9878
           15  0.10868600    0.02231756        0.0068        0.9946
           16  0.08636844                      0.0054        1.0000

            5 factors will be retained by the MINEIGEN criterion.
```

Figure 3. (Continued)

The SAS System 08:12 Wednesday, February 11, 2004 2

The FACTOR Procedure
Initial Factor Method: Principal Components

Factor Pattern

	Factor1	Factor2	Factor3	Factor4	Factor5
Q1	0.45637	0.43576	0.09192	0.29595	0.05566
Q2	0.30539	0.18213	0.29698	0.44971	0.02943
Q3	0.47594	0.41919	0.14358	0.39640	0.04827
Q4	0.54918	0.46059	0.00915	0.18052	0.04065
Q5	0.66108	0.27710	-0.22886	-0.07014	-0.11969
Q6	0.66846	0.26605	-0.21214	-0.08584	-0.15310
Q7	0.69561	-0.10466	-0.45360	0.05138	-0.29626
Q8	0.71005	-0.09497	-0.44392	0.03903	-0.30789
Q9	0.64901	-0.47856	-0.19538	0.23903	0.32793
Q10	0.67098	-0.47821	-0.19004	0.22467	0.30472
Q11	0.70500	-0.16870	0.23166	-0.05638	0.28644
Q12	0.69834	-0.13950	0.23661	-0.07200	0.28609
Q13	0.66733	-0.29380	0.44766	-0.06298	-0.41122
Q14	0.66487	-0.27018	0.45761	-0.07115	-0.42180
Q15	0.59842	0.26950	0.02334	-0.52129	0.23612
Q16	0.65836	0.20429	0.04044	-0.50806	0.18384

Variance Explained by Each Factor

Factor1	Factor2	Factor3	Factor4	Factor5
6.2366124	1.5577655	1.2134675	1.1508714	1.0291333

Final Communality Estimates: Total = 11.187850

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
0.49729753	0.41773863	0.58231770	0.54807426	0.58543373	0.59343136	0.79097974	0.80656927

Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
0.85307625	0.85834137	0.66438095	0.65015292	0.90510990	0.90744341	0.75877917	0.76872390

APPENDIX A

CAREER PREPARATION PERFORMANCE MONITORING SCORING SYSTEM

CPS Goals

1. To ensure that career preparation is fully integrated into the Michigan education system.

2. To ensure that all students, with their parents, will be prepared to make informed choices about their careers.

3. To ensure that all students have the types and levels of skills, knowledge, and performance valued and required in their education and career choices.

Scale factors (percent of threshold attainment)

Some of the scoring in the performance monitoring system use scale factors. They are calculated as follows:

Performance standard scale factor	=	1.0, if measured outcome meets or exceeds performance standard
	=	measured outcome percentage/performance standard, if measured outcome is less than performance standard
Response scale factor	=	1.0, if response percentage meets or exceeds the required response rate for validity
	=	response percentage/required response rate, if required response rate is not met

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR CAREER PATHWAYS (CP)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
CPs integrated into local district educational system (CP Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
Buildings use CPs in curriculum (CP Outcome 2)	1	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3, 5, if district is reported at 1,2; 0, otherwise	_____
High schools aligning courses to reflect career preparation (CP Outcome 3)	3	End-of-Year Report Benchmark 4c	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3, 5, if district is reported at 1,2, 0, otherwise	_____
High school students have chosen a pathway (CP Outcome 4)	2	10th grade EDP assessment Pct. = (Q3b/ Q2)* 100 Response = (Q2/Q1) * 100	Pct >= 85% Response >= 90%	20 * perf. std scale factor * response scale factor	_____
CPs used to select courses (CP Outcome 5)	3	12th grade student self-report (Q7) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf std. scale factor * response scale factor	_____
CPs used to influence career choice (CP Outcome 6)	2	12th grade student self-report (Q8) Pct. = %age. of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 60% Response >= 80%	20 * perf. std scale factor * response scale factor	_____
Career Pathway Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR EDUCATION DEVELOPMENT PLANS (EDPS)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
EDPs integrated into local district educational system (EDP Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
MS and HS buildings use EDPs (EDP Outcome 2)	1	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3; 5, if district is reported at 1,2, 0, otherwise	_____
High school students review EDPs annually and use them for course selection and career plans (EDP Outcome 3)	1,3	End-of-Year Report Benchmark 4	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3; 5, if district is reported at 1,2, 0, otherwise	_____
High school students maintain EDPs that meet state standards (exc for parent endorsement) (EDP Outcome 4)	1,3	10th grade EDP assessment Pct = (Q4/ Q2)* 100 Response = (Q2/Q1) * 100	Pct >= 85% Response >= 90%	20 * perf std scale factor * response scale factor	_____
High school students and their parents/guardians make informed choices about careers (EDP Outcome 5)	2	10th grade EDP assessment Pct = (Q5/ Q2)* 100 Response = (Q2/Q1) * 100	Pct >= 60% Response >= 90%	10 * perf std. scale factor * response scale factor	_____
EDPs used in course selection (EDP Outcome 6)	3	12th grade student self-report (Q9) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	15 * perf std scale factor * response scale factor	_____
EDPs used to influence career choice (EDP Outcome 7)	2	12th grade student self-report (Q10) Pct = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 60% Response >= 80%	15 * perf. std scale factor * response scale factor	_____
EDP Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR CAREER AWARENESS AND EXPLORATION (CAE)

Outcomes	**CPS Goal(s)**	**Measures**	**Performance Standards**	**Performance Scoring**	**Score**
CAE adopted in local district educational system (CAE Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
Buildings have resources available (CAE Outcome 2)	1,2	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3, 5, if district is reported at 1,2, 0, otherwise	_____
Instructional units on careers incorporated into curriculum (CAE Outcome 3)	3	End-of-Year Report Benchmark 4	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3, 5, if district is reported at 1,2, 0, otherwise	_____
Career information resources used to select courses (CAE Outcome 4)	2,3	12th grade student self-report (Q5) Pct = %age. of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 60% Response >= 80%	30 * perf std scale factor * response scale factor	_____
Career information used to influence career choice (CAE Outcome 5)	2	12th grade student self-report (Q6) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	30 * perf. std. scale factor * response scale factor	_____
CAE Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR AUTHENTIC INSTRUCTION (AI)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
AI adopted in local district educational system (AI Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
Instructional teams participate and resources available (AI Outcome 2)	1	End-of-Year Report Benchmark 3	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3; 5, if district is reported at 1,2; 0, otherwise	_____
Instructional use of AI activities (AI Outcome 3)	3	End-of-Year Report Benchmark 4	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3; 5, if district is reported at 1,2, 0, otherwise	_____
Student achievement increases (AI Outcome 4) **NOTE: THIS MEASURE DID NOT GET IMPLEMENTED**	3	Grades on student achievement sections (status, growth, and change) of Michigan's Education-YES	District's average grade for these three components is B	30, if district has average of B or higher 20, if district has average of between C and B 10, if district has average of between D and C 0, otherwise	_____
Instruction uses AI to enhance learning (AI Outcome 5)	3	12th grade student self-report (Q1) Pct = %age. of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	30 * perf std. scale factor * response scale factor	_____
Students authentically assessed (AI Outcome 6)	2,3	12th grade student self-report (Q2) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf std. scale factor * response scale factor	_____
AI Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR CAREER AND EMPLOYABILITY SKILLS (CES)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
CES adopted in local district educational system (CES Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report, 5, if district is reported at 3 0, otherwise	____
Buildings provide CES instruction (CES Outcome 2)	3	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3; 5, if district is reported at 1,2, 0, otherwise	____
Students leave school with improved employability skills (CES Outcome 3)	3	End-of-Year Report Benchmark 4	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3; 5, if district is reported at 1,2; 0, otherwise	____
Improved student attendance and high school retention (CES Outcome 4) **NOTE: THIS MEASURE DID NOT GET IMPLEMENTED**	3	District grade on this indicator in Michigan's Education-YES	B	30, if district has B or higher 20, if district has C 10, if district has D 0, otherwise	____
Instruction emphasizes CES (CES Outcome 5)	3	12th grade student self-report (Q4) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	30 * perf. std scale factor * response scale factor	____
CES Performance Score - - - - >					____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR WORK-BASED LEARNING (WBL)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
WBL strategies adopted in local district educational system (WBL Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
Implementation of WBL in collaboration with business (WBL Outcome 2)	1	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3, 5, if district is reported at 1,2; 0, otherwise	_____
Students participate in WBL and acquire skills (WBL Outcome 3)	3	End-of-Year Report Benchmark 4	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3, 5, if district is reported at 1,2; 0, otherwise	_____
High school students gain career information and knowledge from WBL activities (WBL Outcome 4)	3	10th grade EDP assessment Pct = (Q6/ Q2)* 100 Response = (Q2/Q1) * 100	Pct >= 50% Response >= 90%	20 * perf std scale factor * response scale factor	_____
High school graduates gain career information and knowledge from WBL activities (WBL Outcome 5)	2,3	12th grade student self-report (Q13) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 60% Response >= 80%	15 * perf std scale factor * response scale factor	_____
WBL influences career choice (WBL Outcome 6)	2	12th grade student self-report (Q14) Pct = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	25 * perf. std. scale factor * response scale factor	_____
WBL Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR TECHNOLOGY EDUCATION (TECH ED)

Outcomes	**CPS Goal(s)**	**Measures**	**Performance Standards**	**Performance Scoring**	**Score**
Tech Ed program adopted in local district educational system (TE Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report, 5, if district is reported at 3 0, otherwise	_____
Buildings offer tech ed instruction (TE Outcome 2)	1	End-of-Year Report Benchmarks 2 – 5 (average)	Level of 3.5	15, if district average is 3.5 + , 10, if district average is [3, 3 5), 5, if district average is [2,3); 0, otherwise	_____
Resource availability in district (TE Outcome 3)	1	End-of-Year Report Benchmark 6c	Level of 4	15, if district is reported at 4+ , 10, if district is reported at 3; 5, if district is reported at 1,2; 0, otherwise	_____
Students learn to solve problems with technology tools (TE Outcome 4)	3	12th grade student self-report (Q3) Pct. = %age. of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	60 * perf std scale factor * response scale factor	_____
Tech Ed Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR COMPREHENSIVE GUIDANCE AND COUNSELING (CGC)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
CGC adopted in local district educational system (CGC Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	_____
Program implementation (CGC Outcome 2)	1,3	End-of-Year Report Benchmark 6	Level of 4	15, if district is reported at 4+, 10, if district is reported at 3, 5, if district is reported at 1,2, 0, otherwise	_____
Students gain intended knowledge and skills in areas of affective, academic, and career planning (CGC Outcome 3)	3	End-of-Year Report Benchmark 7	Level of 4	15, if district is reported at 4+, 10, if district is reported at 3, 5, if district is reported at 1,2; 0, otherwise	_____
Improved student attendance and high school retention (CGC Outcome 4) **NOTE: THIS MEASURE DID NOT GET IMPLEMENTED**	3	District grade on this indicator in Michigan's Education-YES	B	20, if district has B or higher 15, if district has C 10, if district has D 0, otherwise	_____
CGC model has helped students select appropriate courses (CGC Outcome 5)	3	12th grade student self-report (Q15) Pct = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf std scale factor * response scale factor	_____
CGC model has prepared graduates for next career step (CGC Outcome 6)	3	12th grade student self-report (Q16) Pct. = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf std scale factor * response scale factor	_____
CGC Performance Score - - - - >					_____

OUTCOMES, MEASURES, PERFORMANCE STANDARDS, AND PERFORMANCE SCORING FOR CAREER ASSESSMENT (CA)

Outcomes	CPS Goal(s)	Measures	Performance Standards	Performance Scoring	Score
CA process adopted by local district educational system (CA Outcome 1)	1	End-of-Year Report Benchmark 1 (Board Approval)	Level of 4	10, if district is reported at 4+ in end-of-year report; 5, if district is reported at 3 0, otherwise	____
MS and HS buildings use developmentally appropriate CAs (CA Outcome 2)	1	End-of-Year Report Benchmark 2	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3; 5, if district is reported at 1,2, 0, otherwise	____
Students use CAs to choose courses and develop career plans (CA Outcome 3)	3	End-of-Year Report Benchmark 5	Level of 4	15, if district is reported at 4+ ; 10, if district is reported at 3, 5, if district is reported at 1,2; 0, otherwise	____
High school students use CA results to plan courses (CA Outcome 4)	2	10th grade EDP assessment Pct = (Q7/ Q2)* 100 Response = (Q2/Q1) * 100	Pct >= 85% Response >= 90%	20 * perf std scale factor * response scale factor	____
CAs used to select courses (CA Outcome 5)	3	12th grade student self-report (Q11) Pct. = %age. of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf. std. scale factor * response scale factor	____
CAs used to influence career choice (CA Outcome 6)	2	12th grade student self-report (Q12) Pct = %age of non-missing responses that are 1,2 Response = %age of 12th graders who complete self-report	Pct >= 80% Response >= 80%	20 * perf std. scale factor * response scale factor	____
CA Performance Score - - - - >					____

Appendix B

Career Preparation System Benchmarks

**Denotes benchmarks used in Accountability Score*

Career Pathways

***1. The local board of education or designee has adopted the six Career Pathways or an equivalent alternative that meets the state standard.**

***2. Ensures that all school buildings within the district utilize the Career Pathways concept adopted by the district as evidenced by their curriculum plans/guides.**

3. Ensures that all students will have opportunities to learn about careers within all pathways as evidenced by curriculum plans/guides.

4a. Ensures that the Career Pathways are used as a framework for organizing career contextual teaching/learning experiences as evidenced in curriculum plans used by staff.

4b. Ensures that the Career Pathways are used as a framework for providing systematic career planning and preparation as evidenced by Career Pathway use in the district's counseling and guidance program, Education Development Plans, career awareness/exploration activities, and work-based learning.

***4c. Ensures that the Career Pathways are used as a framework for aligning high school courses into the chosen Career Pathways to reflect which courses are needed for preparing for careers as evidenced in documents such as student handbooks and course selection guides.**

Education Development Plans (EDPs)

***1. The local board of education or designee has adopted Education Development Plans (EDP) that meet the state standard.**

***2. Ensures that all middle school and high school buildings within the district utilize the Education Development Plan document and process adopted by the district as evidenced by student records in each building.**

3. Ensures that all students are engaged in developing initial EDPs before leaving the 8th grade level as evidenced by student records.

***4. Ensures that all high school students review and have opportunities to revise or update their EDPs at least annually to reflect changes in career decisions for use in selecting courses and in choosing post-secondary options as evidenced by guidance/counseling plans and student records.**

Career Awareness and Exploration

***1. The local board of education or designee will have adopted a career awareness and exploration program that meets the state standard.**

***2. Ensures that a variety of career informational resources are available at elementary, middle, and high school levels, including the Michigan Occupational Information System (MOIS) and/or similar comprehensive career information systems, to introduce students to career options representative of all career pathways as evidenced by career resource inventories.**

3. Ensures that students are provided experiential activities involving active, direct, and/or hands-on learning that focus on tasks of various careers as evidenced by curriculum plans, guides and teaching/learning activities.

***4. Ensures that instructional units and activities on careers are incorporated into the curriculum at all grade levels as evidenced by curriculum guides, instructional materials and the involvement of business/industry, parents, and community as resources.**

5. Ensures that middle and high school students are assisted in making connections with workers/experts in career pathways through school-based and work-based learning programs as evidenced by documented student participation records.

Authentic Instruction

***1. The local board of education or designee has adopted career contextual learning strategies that meet the state standard.**

2. Ensures the utilization of the Michigan Curriculum Framework (MDE, 1996) as a guide to the development and adoption of a local curricular program that incorporates academic content standards in the areas of Mathematics, Science, Social Studies, and English Language Arts as evidenced by the district's curriculum design.

***3. Ensures that instructional teams participate in curriculum decision-making and are provided the necessary resources to design, develop and implement career contextual activities within the district's curricular program as evidenced by school improvement plans and curricula.**

***4. Ensures that career contextual learning activities are systematically planned and provided for elementary, middle, and high school students in each building of the district as evidenced by curriculum guides and course descriptions/schedules.**

5. Ensures that teaching and learning activities at each level use a variety of career contexts from each of the six career pathways as focal points for instruction to engage students in areas of meaningful interests and learning strengths as evidenced by curriculum guides or other records of instructional activity.

Career and Employability Skills

***1. The local board of education or designee has adopted a career and employability skills program that meets the state standard.**

***2. Ensures that all students in elementary, middle and high schools are provided Career and Employability Skills instruction which includes the areas of applied academic skills, career planning, developing and presenting information, problem solving, personal management, organizational skills, teamwork, negotiation skills, understanding systems, and using employability skills as evidenced by curriculum guides and course descriptions.**

3. Ensures that students learn Career and Employability Skills in a career context as evidenced by teaching/learning strategies used.

***4. Ensures that all students preparing to leave high school understand how to develop and utilize such items as resumes, letters of reference, school records of attendance, portfolios, transcripts, and certifications for use in pursuing future education and career goals.**

5. Ensures that all high school students will be assessed using ACT Work Keys or another nationally recognized assessment approved by the Michigan Department of Career Development as evidenced by assessment records.

Work-Based Learning

***1. The local board of education or designee has adopted work-based learning strategies that meet the state standard.**

***2. Ensures the implementation of work-based learning activities that combine school-based and work-site experiences in collaboration with business and industry and other community agencies to provide instruction and career exploration in authentic career contexts as evidenced by school/student records.**

3. Ensures that a variety of work-based learning techniques are utilized such as: student visitor, volunteer, unpaid trainee, student/learner, apprentice, and in-school placements as evidenced by school/student records.

***4. Ensures that student participation in work-site experiences, including acquisition of work behaviors, skills, and knowledge of careers, is documented.**

Technology Education

***1. The local board of education or designee has adopted a technology education program that meets the state standard.**

+2. Ensures that all elementary and middle school students will gain technological concepts which have been integrated into the curriculum as evidenced by their incorporation into mathematics, science, and other appropriate subject area curriculum plans/guides.

+3. Ensures that before leaving middle school, all students will have taken an Exploratory Technology Education course introducing physical, informational, and chemical/biological related technologies as evidenced by existence of district curriculum guides and course descriptions/schedules.

+4. Ensures that at the high school level, students that have not participated in an Exploratory Technology Education course introducing physical, informational, and chemical/biological technologies are provided the opportunity to enroll as evidenced by existence of district curriculum guides and course descriptions/schedules.

+5. Ensures that at the high school level, students desiring greater knowledge and experience regarding the development, control, and use of technology will have the opportunity to enroll in a Foundations of Technology course as evidenced by existence of district curriculum guides and course descriptions/schedules.

***6. Ensures that sufficient tools/equipment are available to support infusion of technological concepts into the curriculum at elementary and middle school levels and that facilities/equipment are available to support Technology Education separate course offerings.**

+Averaged

Comprehensive Guidance & Counseling

***1. The local board of education or designee has adopted and customized the Comprehensive Guidance Counseling Program that meets the state standard.**

2. Ensures an action plan is designed and implemented to establish and operate the Program in the district on an ongoing basis.

3. Ensures that the Program has a mission statement and purpose consistent with the district's goals.

4. Ensures that a student needs assessment is conducted with parents, educators, and students to help determine areas of priority for Program development as evidenced by documented assessment results.
5. Ensures that the Program provides for the development of student competencies in the areas of Career Planning and Exploration, Knowledge of Self and Others, and Educational/Career-Technical Development as evidenced by the guidance program plan.

***6. Ensures that the Program Components of Guidance Curriculum, Individual Planning, Responsive Services, and Systems Support are implemented in order to provide a full range of activities to enhance student learning and preparation for future success as evidenced by the guidance program plan.**

***7. Ensures that the Program is delivered to all K-12 students in each building appropriate to each developmental level (elementary, middle and high school) as evidenced by the existence of all four comprehensive guidance programmatic components in each building.**

8. Ensures the Program is evaluated to determine progress and to set continuous improvement goals as evidenced by documented evaluation results.

Career Assessment

***1. The local board of education or designee has adopted a career assessment process that meets the state standard.**

***2. Ensures utilization of a variety of developmentally appropriate career interest and aptitude assessments for all middle and high school students as evidenced by assessment records.**

3. Ensures that school counselors provide interpretation of student's career assessment results to assist in evaluating their interests and aptitudes related to a career decision-making process as evidenced by counseling records.
4. Ensures that students and parents understand and compare the results of various assessments over time as students progress through school, identifying trends in their individual preferences and strengths as evidenced by student/counseling records.

***5. Ensures that career assessment results are given consideration in the student's selection of a career pathway and are used to help refine career and educational decisions reflected in an Education Development Plan as evidenced by student and counseling records.**