

Executive Summary

Alignment Study of WorkKeys® and the Missouri Assessment Program

**Prepared for
St. Louis Regional Chamber and Growth Association**

**Prepared by
Institute for Workforce Education
at The Learning Exchange
Kansas City, Missouri
June 2001**

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Alignment Study of Missouri Assessment Program and WorkKeys® Prepared for the St. Louis RCGA

A study was requested by the St. Louis RCGA to examine how WorkKeys® aligns with the Missouri Assessment Program (MAP) to determine how these two assessments share similar goals and can benefit students.

This work follows a project that aligned Missouri's Show-Me Standards, WorkKeys®, and SCANS skills. In a progression of examining how WorkKeys® benefit Missouri's students, studying how WorkKeys® links with Missouri's mandated testing appeared to be the next logical step.

The study was to undertake examining connections between MAP and WorkKeys®. This step was more challenging and less clear as to how to proceed in studying these two assessments than the original alignment of WorkKeys® and the Show-Me Standards. These assessments are very different in expected outcomes, intended use, and methods of testing.

When studying these two assessments it is evident that WorkKeys® is designed to align with the expectations of the workplace and that MAP has a different education-based purpose. The WorkKeys® assessments are designed upon workplace skills carried out on a daily basis by adult workers. Map is designed to measure developmentally appropriate skills for students of all ages, elementary through high school.

MAP is expected to:

- measure student progress toward meeting the Show-Me Standards
- assess students' knowledge and skills in basic subject areas such as math, communication arts, social studies, science
- assess student progress at various grades to indicate level of educational achievement
- be used only in the public school setting

MAP methods of testing:

- un-timed testing periods for two sessions, third session is timed
- multiple choice, constructed response, performance events

WorkKeys® is expected to:

- directly measure skill preparedness for the workplace related to specific occupations
- provide students a score of their workplace skills in areas such as problem-solving, communication skills, and interpersonal skills including teamwork
- provide test scores to students regarding their specific occupational skills related to what is expected in the workplace as determined by employers
- be used by both secondary students and adults as a means to assess workplace skills and present their scores to potential employers

WorkKeys® method of testing:

- timed testing segments
- multiple choice

What works in the MAP and WorkKeys®?

The lack of national standards has created a system whereby students are graduating from high school programs but the knowledge and skills acquired there may be vastly different from student to student and school to school. WorkKeys® is a new marker and measure that brings the continuity of a national standard to the measure of work skills (Dawson, 2000¹). The scores are easily recognized by schools and businesses and are transferable from state to state. A graduate from California with WorkKeys® scores in hand has the same information with which to identify him/herself to a prospective employer as does a young person with the same report from New Jersey. Their high school diplomas do not carry the same confirmation of knowledge or skills.

The WorkKeys® approach is a very focused and applied approach. The specificity of workplace behaviors and skills it measures make it a valid instrument to assess workplace abilities. MAP on the other hand measures more theoretical aspects of core subjects areas. The format of testing used in MAP is multiple-choice along with constructed response and performance events. Students are expected to demonstrate their knowledge in the constructed response and performance event sections of the test. Multiple-choice is the primary format used in WorkKeys® as in MAP.

While not expected to meet the mandated testing requirements in Missouri, WorkKeys® is an assessment vehicle that offers students the opportunity to evaluate their skills, test their knowledge and application, where they see the value related to the workplace. WorkKeys® can be a confidence builder for students as they get their scores and realize how important testing is as it relates to the workplace and employment.

A sample item analyses is attached to this Executive Summary which shows the alignment of MAP and WorkKeys® questions in math and communication arts. These samples provide a sense of the context in which students are responding to questions on the assessments. There is a rationale given for both the MAP and WorkKeys® questions as to the level of testing.

The Process

To study these two assessments, while not sharing common content areas in the same context (MAP in the educational context and WorkKeys® in the workplace context), Bloom's Taxonomy was used to determine the level of knowledge demonstrated on these tests. Bloom's looks at the complexity of thinking from the basic level to the highest order of the thought process. The levels, from highest to most basic are:

- Evaluation (highest)
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge (basic)

In examining the levels of Bloom's Taxonomy found in both MAP and WorkKeys®, it is clear the two assessments contain multiple levels. WorkKeys® reaches the upper levels of application and analysis using problem-solving and decision making to reach their answers in a multiple choice format. MAP goes to analysis, synthesis and some evaluation through the process of constructed response in addition to the multiple-choice format. The study shows the percent of performance goals at each level of Bloom's Taxonomy. Both assessments do move well beyond knowledge into application and analysis.

To more clearly focus the study, it was determined through ACT what WorkKeys® tests were given in Missouri in 2000. The tests most commonly used were:

¹ Dawson, M. (2000). Use of WorkKeys®--an informal survey of selected users. The Ohio State University. Unpublished manuscript.

- Locating Information (3,082)
- Reading for Information (2,933)
- Applied Math (2,656)

These areas are where WorkKeys® and MAP content appear to overlap. Consequently, the final crosswalk was carried out between Map tests in Mathematics and Communications Arts and WorkKeys® Applied Math, Locating Information and Reading for Information.

The study looked at the parts of the MAP that make up the statewide assessment only. Some areas of MAP are designated to assess locally, not statewide. The study goes into more detail about the process and findings.

In summary regarding the two assessments, MAP is formed around core content areas in school with students tested in specified grade levels throughout their public education. The purpose of MAP is to focus on student educational achievement with some items on the test related to workplace situations.

WorkKeys® is intended to provide the individual, student or adult, taking the test an assessment of their personal skills related to the workplace as determined by both educators and business people. The purpose of WorkKeys® is to provide a rating of skills that can be taken to a potential employer to indicate their individual workplace skills.

In today's world, it is truly the goal to move students' abilities beyond knowledge and comprehension into the realm of application, analysis, synthesis and evaluation. Moving up the levels of rigor as determined by Bloom's Taxonomy, students demonstrate independent, creative thinking to enhance problem solving and decision-making abilities. Students demonstrate their abilities around higher order thinking skills on both assessments.

Value Added

MAP is a mandated state test for students in public education in Missouri. On the other hand, WorkKeys® is an optional assessment, which can be offered by individual schools and brings a different meaning to test taking for students. They know WorkKeys® will give them a skill score to share with potential employers. The use of the results brings a relevant meaning to testing for students. WorkKeys® takes the role of testing beyond school and shows a direct connection to the workplace. The quiet value added for students who have taken WorkKeys® is their increased experience and confidence in taking tests. This may reflect in improved test taking skills and a greater understanding of the importance of doing one's best when being tested whether required or optional.

Perhaps the lesson learned is that of someday integrating the two tests to provide Missouri students with a broader, more standardized measure of preparedness for the world of work and learning. They are very different instruments, each with its own purpose and design. They measure different skills and provide different results. Both enable the test takers to make better career and educational decisions. The connection to making better career and educational decisions is very evident in WorkKeys®.

SAMPLE ITEM ANALYSES from MAP Grade 10 Mathematics and WorkKeys® Applied Math

<p>MAP GRADE 10 MATHEMATICS*</p> <p>Gail must take one photograph of each of 90 rings for a jewelry store. Color print film is sold in two different size rolls at the price shown in the table.</p> <p style="text-align: center;">Color Print Film Prices</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Number of Exposures</th> <th style="text-align: left;">Price per Roll</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>\$2.88</td> </tr> <tr> <td>36</td> <td>\$3.24</td> </tr> </tbody> </table> <p>How many of each size roll of film should Gail purchase in order to have enough film at the lowest total cost? Provide the work that shows how you arrived at your answer.</p> <p><i>*from the released items High School Mathematics, Spring 2000, grade 10; provided by MO-DESE</i></p>	Number of Exposures	Price per Roll	24	\$2.88	36	\$3.24	<p style="text-align: center;">WorkKeys® LEVEL 5 SAMPLE ITEM: APPLIED MATHEMATICS*</p> <p>Quik Call charges 18 cents per minute for long-distance calls. Econo Phone totals your phone usage each month and rounds the number of minutes up to the nearest 15 minutes. It then charges \$7.90 per hour of phone usage, dividing this charge into 15 minute segments if you use less than a full hour. If your office makes 5 hours 3 minutes worth of calls this month using the company with the lower [price, how much will these calls cost?</p> <p>a. \$39.50 b. \$41.48 c. \$41.87 d. \$54.00 e. \$54.54</p> <p><i>*from the WorkKeys® website, http://www.act.org/workkeys/assess/math/sample5.html</i></p>
Number of Exposures	Price per Roll						
24	\$2.88						
36	\$3.24						
<p>MAP rationale regarding grade level/Show-Me Standards: Content Standard: 1, Number Sense Process Standard: 3.3</p>	<p>WorkKeys rationale—Why this is a level 5 problem:</p> <ul style="list-style-type: none"> ▪ there are several steps of logic and calculation ▪ examinees must perform calculations using mixed numbers ▪ examinees must make two sets of calculations and compare the answers to choose the “best deal.” 						

MAP COMMUNICATION ARTS, GRADE 11

(see following pages for reading passage)

QUESTIONS:

Q1. What is the most likely reason the Colonel sent Tom to a military school? Support your answer with information from the article.

Q2. While attending the Art Institute of Chicago, Thomas Hart Benton wrote in a letter home, "I'm beginning to think there's no such thing as a born artist." Use information from the article to explain why he probably wrote this.

Q3. Your teacher wants you to research Thomas Hart Benton's influence on American painting. Based on the article, what are four key words or phrases that would help you find more information about this topic?

**from the released items High School Communication Arts, Spring 2000, grade 10; provided by MO-DESE*

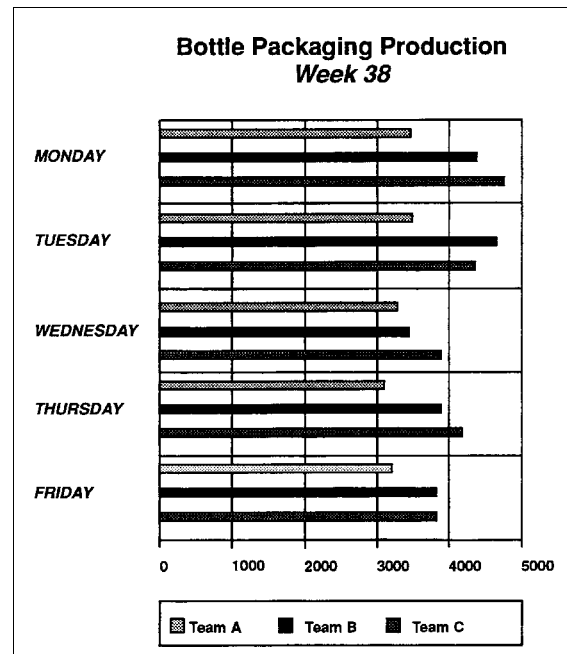
WorkKeys®

LOCATING INFORMATION LEVEL 5

You are a line supervisor at a plant that packages dishwashing soap in bottles. Each week you review the production rates for the three teams that work on your line.

Q. According to the following bar chart, which team had the highest overall production for Week 38?

- A. Team A
- B. Team B
- C. Team C
- D. Team A and Team B had the same high production rate.
- E. Team B and Team C had the same high production rate.



WorkKeys®

READING FOR INFORMATION LEVEL 5

Goldberg's Auto Parts is served by more than fifty different accounts, each with its own sales rep-resentative, company name, corporate address, and shipping address. As a shipping and receiving clerk at Goldberg's, you are required to return defective merchandise to the manufacturer.

Standard procedure for returning an item begins with your written request to the company for authorization. Always send the request to the corporate address, not to the shipping address. Unless the company file folder contains a form for this procedure, write a business letter to the manufacturer supplying the item's stock number, cost, and invoice number; the date it was received; and the reason for its return. The manufacturer's reply will include an authorization number from the sales representative, a sticker for you to place on the outside of the box to identify it as an authorized return, and a closing date for the company's acceptance of the returned item. If you do not attach the provided sticker, your returned box will be refused by the manufacturer as unauthorized, and you will need to obtain a new letter, authorization, sticker, and closing date. Always send a returned box to the shipping address, not to the company's corporate address.

Q. What should you do if you lose an authorization sticker?

- A. Send a request for a return authorization along with the rejected part directly to the manufacturer's shipping address.
- B. Send a request for return authorization along with the rejected part directly to the manufacturer's corporate address.
- C. Repeat the standard procedure to obtain a new letter, authorization, sticker, and closing date.
- D. Use a sticker from another company's folder. Send the rejected part to your sales representative.

<p align="center">MAP COMMUNICATION ARTS GRADE 11</p>	<p align="center">WorkKeys® LOCATING INFORMATION LEVEL 5</p>	<p align="center">WorkKeys® READING FOR INFORMATION LEVEL 5</p>
<p>MAP rationale regarding grade level/Show-Me Standards:</p> <p>Q1. Content Standard: CA3 Process Standard: 3.5</p> <p>Q2. Content Standard: CA3 Process Standard: 3.1</p> <p>Q3. Content Standard: CA3 Process Standard: 1.1</p>	<p>Why the above is a Level 5 problem:</p> <ul style="list-style-type: none"> ▪ The graphic is a complicated bar chart ▪ The task is to summarize and compare the information in the graphic. 	<p>Why the above is a Level 5 reading passage:</p> <ul style="list-style-type: none"> • Sentences are longer, more complex, information needed is still directly stated, but it is harder to understand because of the phrasing: if you don't attach the provided sticker, your returned box will be refused by the manufacturer as unauthorized, and you will need to obtain a new letter, authorization, sticker, and closing date. • Paragraphs are more complex • The reading contains many steps to be followed and details to be considered. • The vocabulary is more difficult: corporate, defective • Instructions include a conditional; Unless the company file folder contains a form for this procedure, write a business letter to the manufacturer, supplying the item's stock number, cost, and invoice number; the date it was received; and the reason for its return.

MAP READING PROMPT
Grade 11 Communication Arts

Directions:

This article is about Thomas Hart Benton, a famous painter from Missouri. Read the article. Then do Numbers 5 through 8.

THOMAS HART BENTON---1889-1975
CHAMPION OF THE AMERICAN SCENE

Determined to create an American art that would surpass European traditions, Thomas Hart Benton championed regionalism, a movement glorifying American subject matter. Abstract works by such artists as Arthur Dove and Georgia O'Keefe didn't appeal to him. He wanted to paint, both in style and subject, paintings that would be understood by ordinary people. As the Great Depression took over the nation, he tried to capture what America had lost tradition, homespun values, and respect for the past. Benton's murals, his most impressive work, tell the story of a country coming of age. His twisting figures and landscapes are supercharged with American energy.

A popular hero in his day, Thomas Hart Benton's hotheaded statements and art world high jinks often made headlines. Benton once said, "I want to be as important to Americans as the funny papers!"

As a boy, Thomas Hart Benton traveled around Missouri with his father, known as the Colonel, who was campaigning for Congress. Often the Colonel would introduce him to the crowd as a future lawyer or politician, but already, at the age of seven, Tom displayed a strong talent for drawing.

Even though his father bragged about his son on the road, at home he found fault with everything Tom did, especially his need to spend hours by himself sketching. The Colonel gave Tom long history books to read and lectured him on laziness and scribbling. Benton once wrote, "Dad was profoundly prejudiced against artists and with some reason. The only ones he had ever come across were the bootlicking² portrait painters of Washington. He couldn't think of a son of his having anything to do with their profession."

Illustration:

Thomas Hart Benton, Katy Flier, Vinita, Oklahoma, 1898. Pencil on paper.

The summer Benton turned seventeen, he found a job as an artist, drawing cartoons for a newspaper in the lead mining town of Joplin, Missouri. At the end of two happy months, Benton begged to study art. Instead, his father packed him off to a military school. Except for when he was playing football, Benton didn't fit in with the other students at the academy. He festooned his letters home with cartoon sketches to demonstrate his artistic skills. Finally, with the help of an understanding English teacher, he persuaded his father to let him go to the Art Institute of Chicago a year later.

Chicago in 1907 was a progressive city filled with automobiles and skyscrapers. Benton rode the streetcar to school and ate in small diners or beer gardens at night. He found art classes frustrating and had a hard time taking criticism. "I'm beginning to think there's no such thing as a born artist" he wrote to his mother. Later he said, "From the moment I first stuck my brush in a fat gob of color I gave up the idea of newspaper cartooning. I made up my mind I was going to be a painter"

Benton headed to New York City, where he painted his way through a number of styles, including abstraction, as in *Constructivist Still Life*. He later renounced these early efforts as experimental. To make a living, he designed movie sets and painted portraits of movie stars. Then he found a job teaching art for fifty dollars a month at the Henry Street Settlement, and he also gave lessons in the neighborhood. There he met his future wife, Rita Piacenza, an Italian immigrant, who was seventeen and a student in his classes. Struck by her beauty, he made a plaster sculpture of her as a gift. (Years later, after they were married, she took the sculpture with them wherever they lived.)

Illustration

Thomas Hart Benton, Constructivist Still Life, 1917-18.
Oil on cardboard, 12 1/2" x 8".

To avoid being drafted and sent overseas during World War I, Benton joined the U.S. Navy in 1918 to work as an architectural draftsman. As he drew the activities he observed around him, his focus changed from what he termed "aesthetic drivelings and my morbid self concerns" to more objective interests. "I left for good the art-for-art's-sake world in which I hitherto lived. Although my technical habits clung for a while, I

² Bootlicking: smooth talking.

abandoned the attitudes which generated them and opened thereby a way to a world which though always around me, I had not seen. That was the world of America.”

Illustration
Thomas Hart Benton, Self-Portrait, South Beach, 1922.
Oil on canvas, 49 ½" x 40".

After his stint in the U.S. Navy, he returned to New York to resume his painting career and his romance with Rita. They were married in 1922.

Throughout the next years, he achieved the recognition he craved. He had discovered the direction his work would follow—the American scene.

Benton didn't limit himself to country scenes. He also painted mythological and biblical themes, and many historical and autobiographical murals, which are large scenes painted directly on a wall or on panels attached to a wall. Benton's murals offer familiar, often ordinary images of America. Our eyes jump from one element to another. There is no single central image, as in more traditional paintings.

Illustration
Thomas Hart Benton, Social History of Missouri, 1935-36 (detail of mural).
©T.H. Benton and R.P. Benton, Testamentary Trusts/VAGA, New York. NY

In one of his most important public commissions, *Social History of Missouri*, we view a sequence of historical events, composed of rhythmic forms. Using this all-over approach to composition, Benton captured the restless energy of America.

He moved back to Missouri to become director of painting at the Kansas City Art Institute. Although his students in Kansas City adored him, he made some damaging statements about certain colleagues at the Art Institute, which caused him to be fired. In his writings and speeches he railed against art that did not stress a recognizable image. He thought abstract art would be a short-lived fad. Benton's painting was in the tradition of American realism, which had always appealed to the practical, down-to-earth side of the American personality. Although Benton did not revolutionize American painting, his student Jackson Pollock did achieve this goal in the late 1940s and early 1950s.

Photo not available
Thomas Hart Benton painting a self-portrait.

Until he died in 1975, Thomas Hart Benton lived in Kansas City with his wife Rita, their son Thomas, and their daughter Jessie. He continued to paint murals and easel paintings that told stories of American life. From his rolling Ozark landscapes to his bustling scenes of industrial progress, Benton's message came straight from the heartland of America.

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