Meeting materials, presenter statements, and resources are located at:
http://sites.ed.gov/WBL2016

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Strengthening Work-based Learning in Education and Transition to Careers

July 26-27, 2016

Baltimore, Maryland

United States of America

OECD

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Welcome

Johan Uvin
Deputy Assistant Secretary,
Delegated Duties of the Assistant Secretary
Office of Career, Technical, & Adult Education
U.S. Department of Education

Dequan Wilkins
Urban Alliance Intern

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Welcome

Kim Hunter Reed
Deputy Under Secretary
U.S. Department of Education

Portia Wu
Assistant Secretary
Employment and Training
Administration
U.S. Department of Labor

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Welcome

Lt. Governor

Boyd K. Rutherford

State of Maryland

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Welcome

Simon Field
Senior Analyst, Directorate for Education and Skills, OECD

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Workshop Overview

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Special thanks to…

Project Overview

Organisation for Economic Co-operation and Development (OECD)
Work-based Learning Study

Presenters:

Viktória Kis and Malgorzata Kuczera

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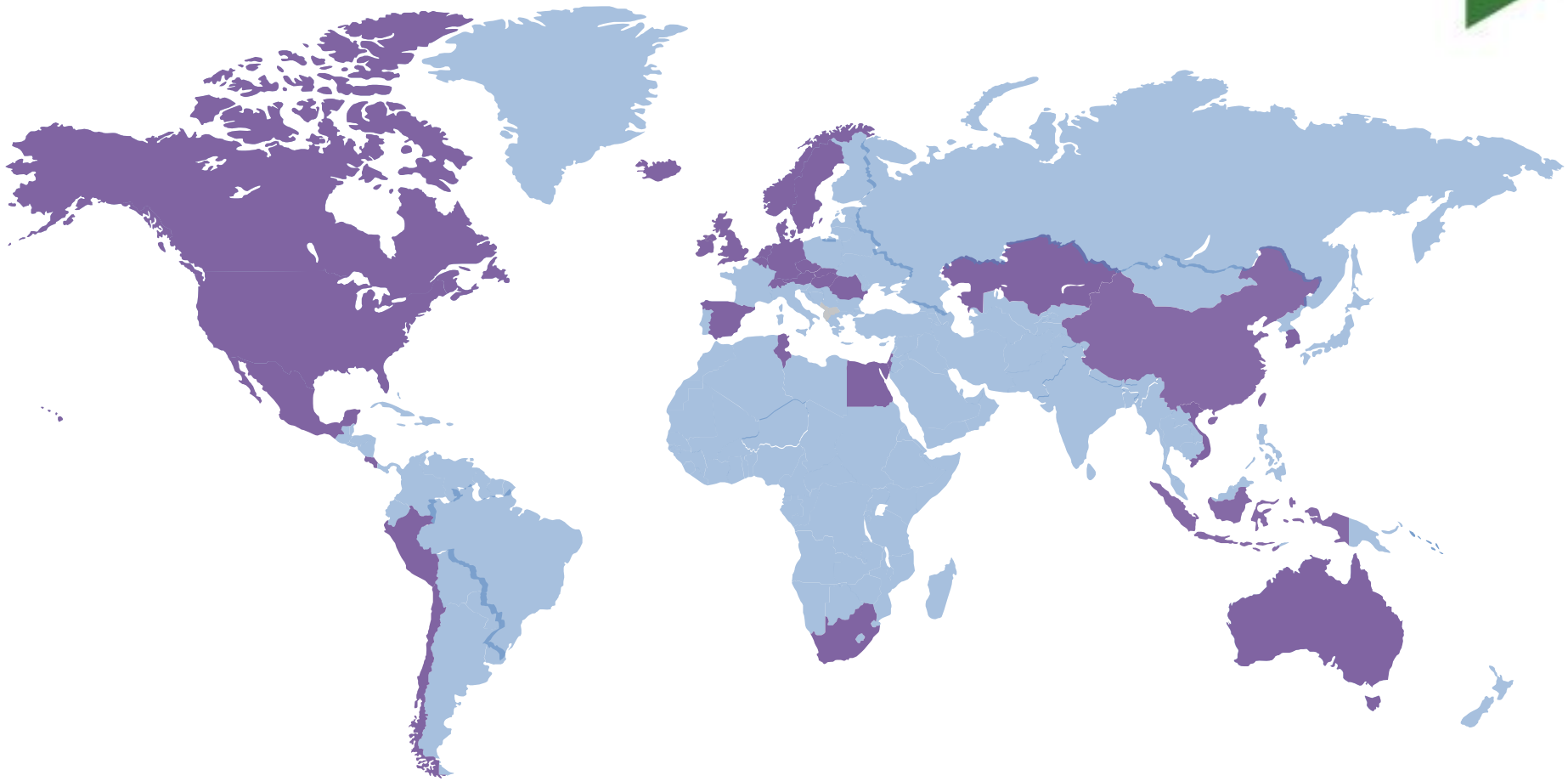
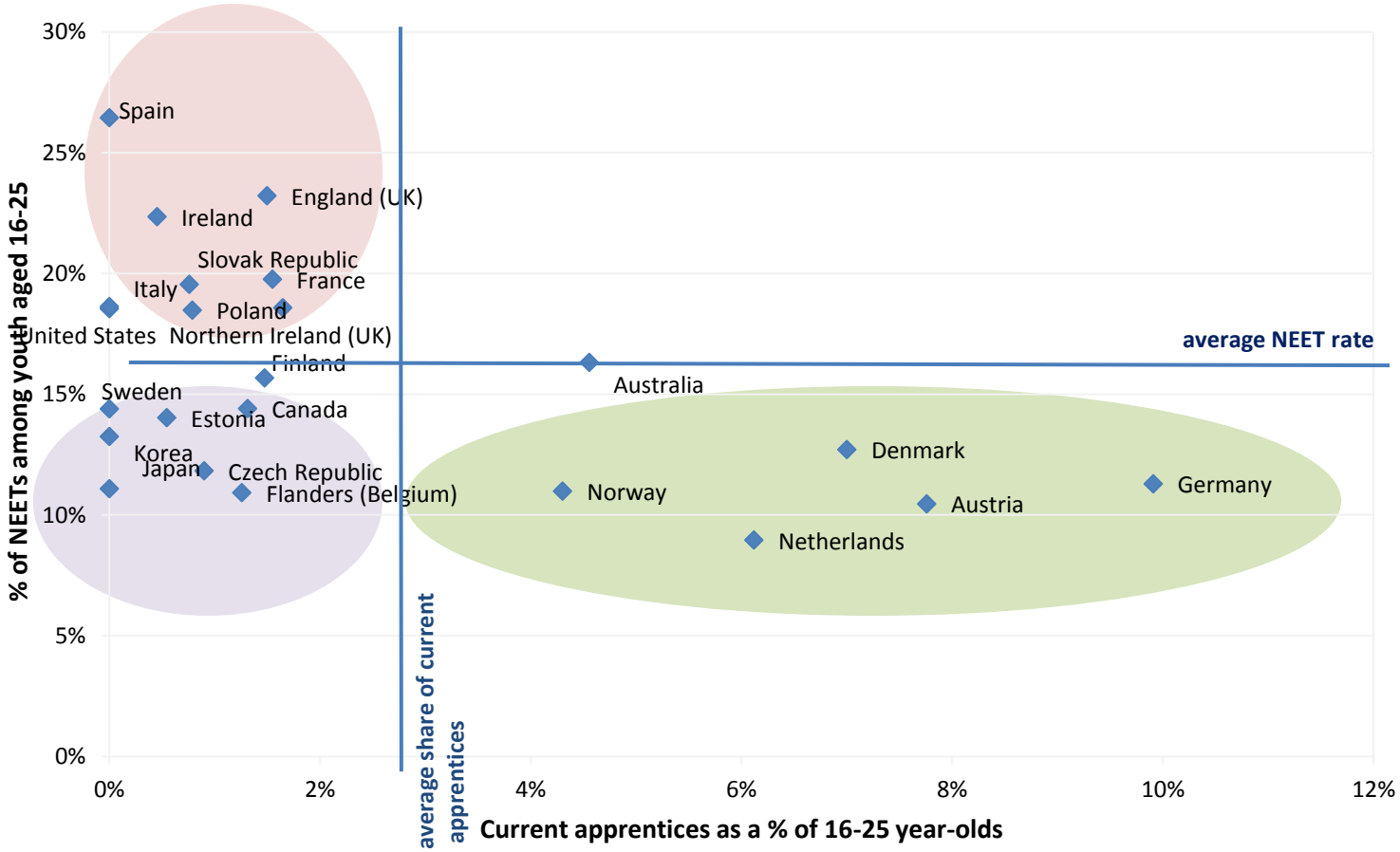
OECD work on CTE/VET



NEET rates and how common are apprenticeships among 16-25 year-olds



Source: Kuczera (forthcoming) based on data from the OECD Survey of Adult Skills (2012)

Work-based learning in CTE/VET:

Focus on six topics

School-to-work transition

Career guidance and information

Costs and benefits

Incentives

Productivity

Assessing skills

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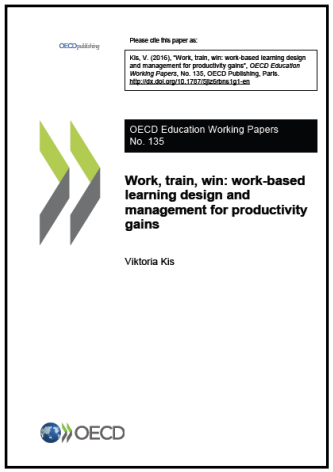
Work-based learning in CTE/VET

Analytical work - Workshop – Six reports on specific topics – Synthesis report



Please cite this paper as:

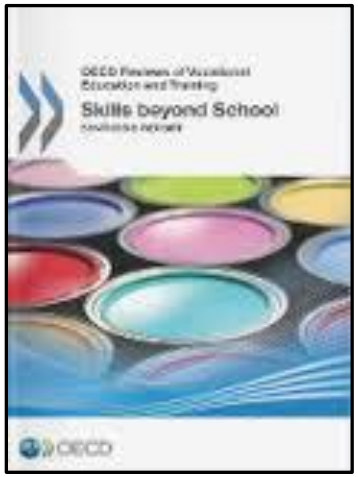
Kis, V. (2016), "Work, train, win: work-based learning design and management for productivity gains", *OECD Education Working Papers*, No. 135, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlzfl6frth7-en

OECD Education Working Papers
No. 135

Work, train, win: work-based learning design and management for productivity gains

Viktoria Kis

OECD



2015 **2016** **2017**

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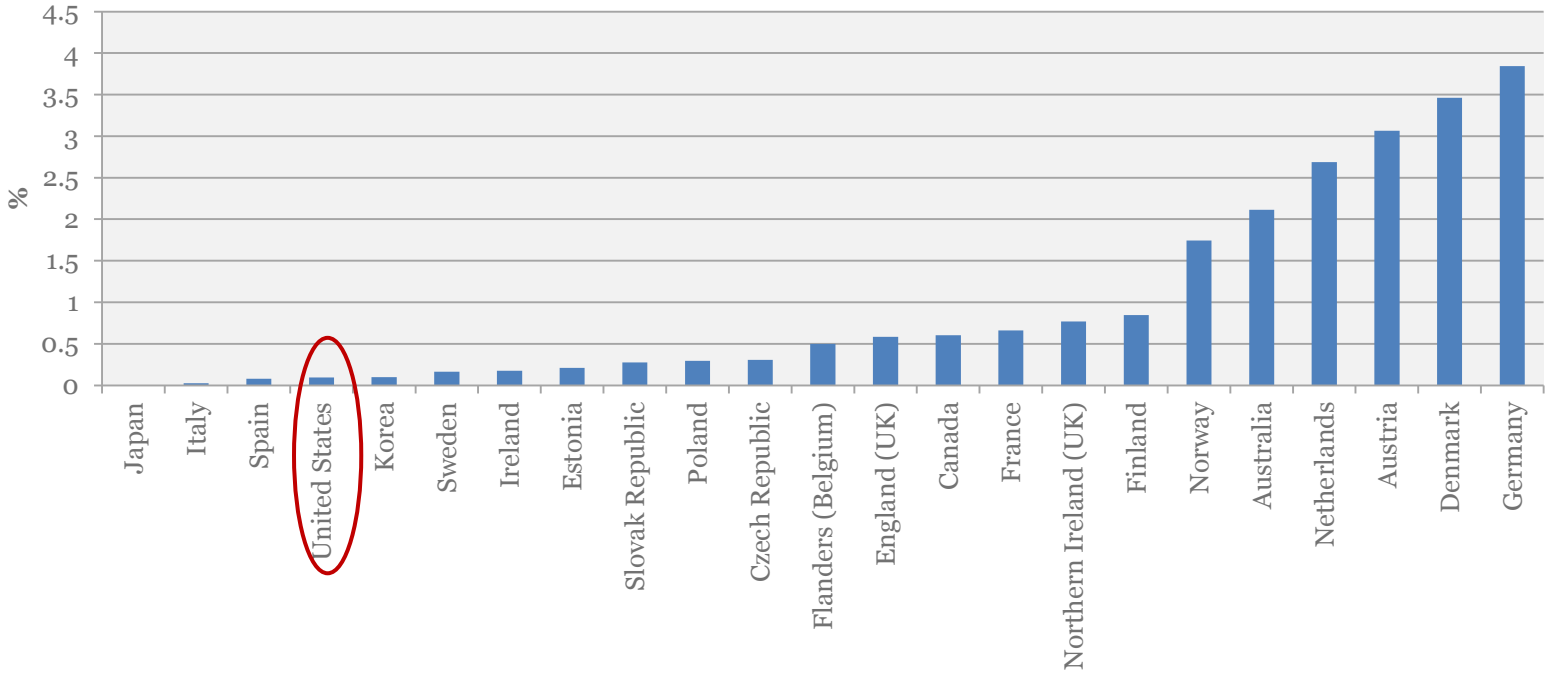
Costs and Benefits of apprenticeship

There are large differences in the use of apprenticeship across countries

Current apprentices as a share of adult population 16-40 year-olds (2012)



Note: In Japan, Italy, Spain, the United States, Korea, Sweden and Ireland the estimated share of current apprentices is not significantly different from zero. Apprentices are defined as currently studying in upper secondary education or short postsecondary programmes and defining themselves as apprentices or holding and apprentice contract.
Source: Survey of Adult Skills 2012 (author's calculations)

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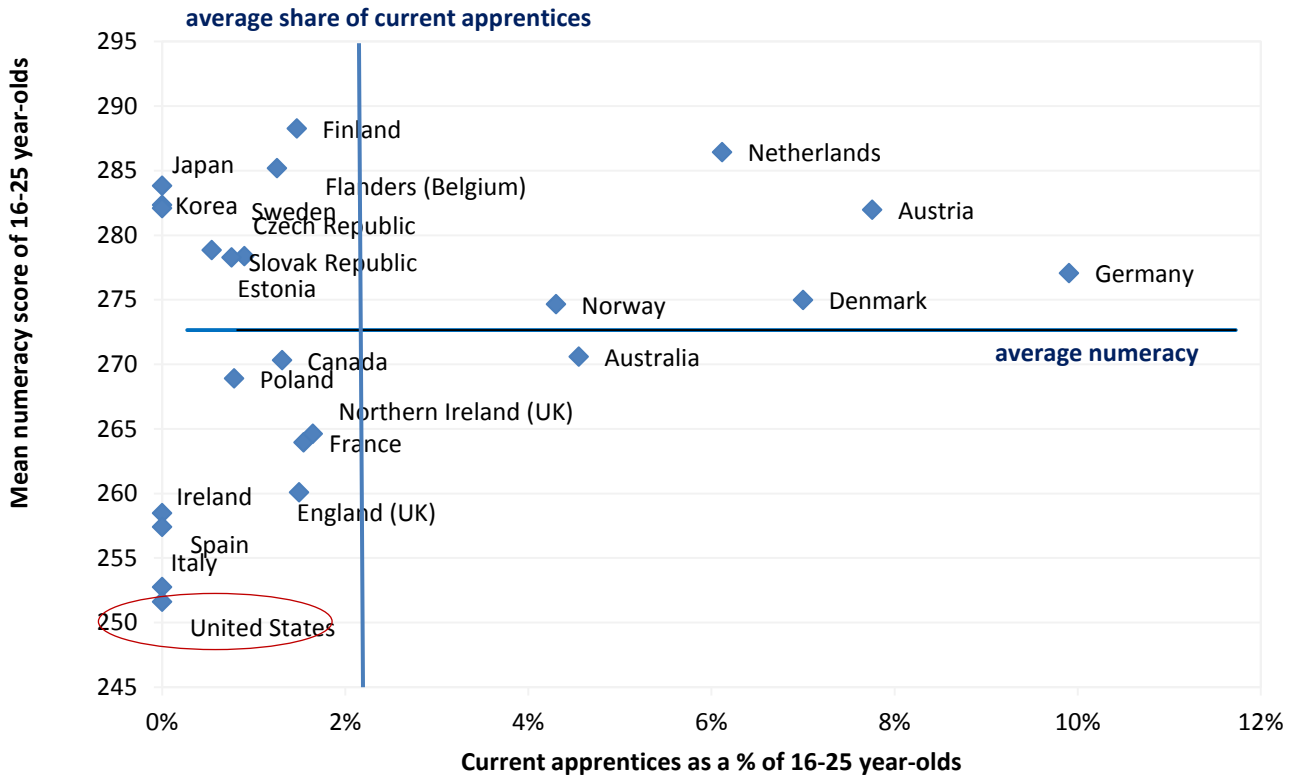
Costs and Benefits of apprenticeship

How do countries with apprenticeship perform on basic skills?



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Source: The Survey of Adult Skills (2012) (author's calculations).

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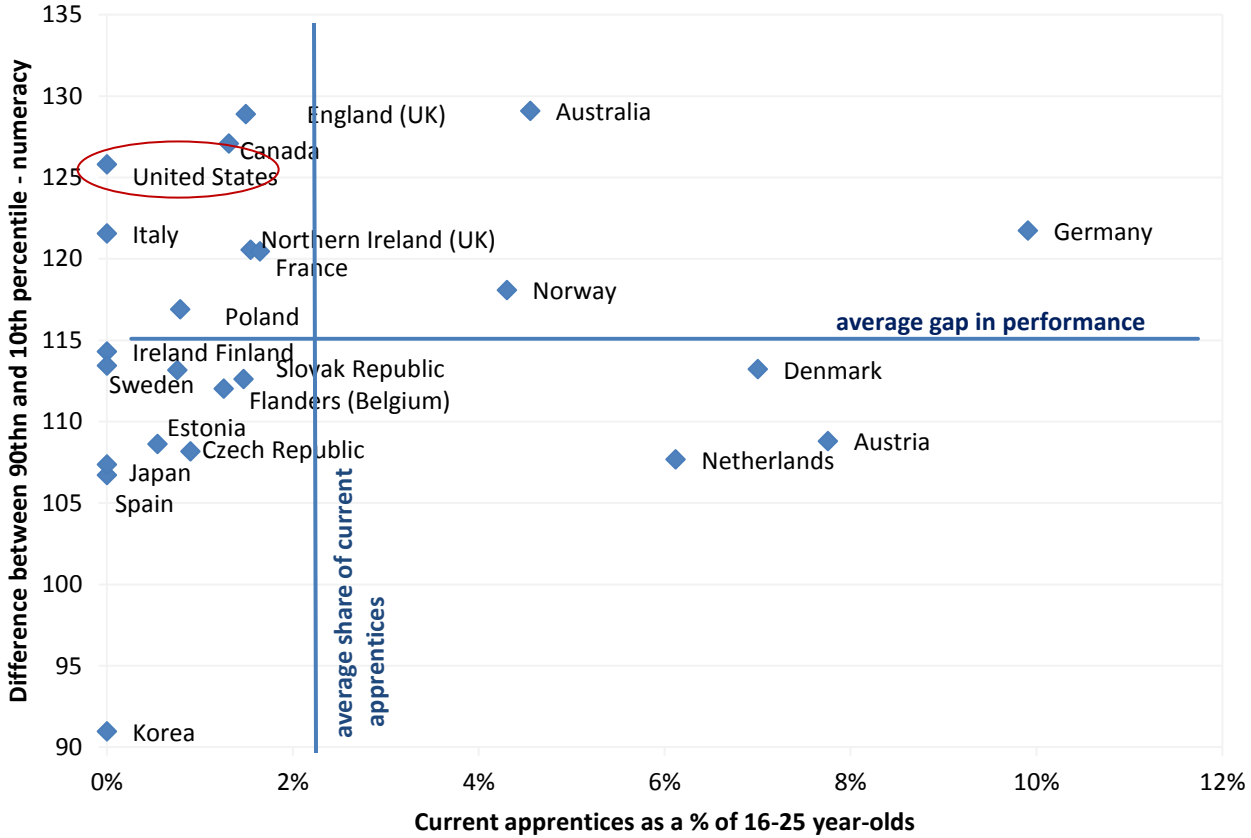
Costs and Benefits of apprenticeship

How do countries with apprenticeship perform on equity?



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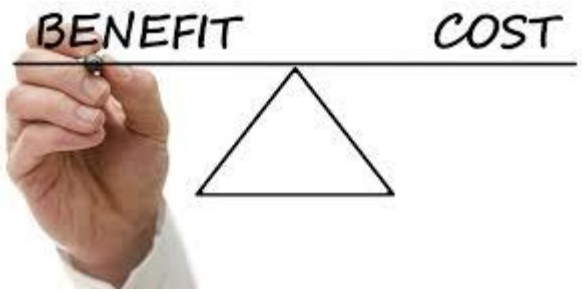
Costs and Benefits of apprenticeship



Basic principles of costs and benefits

What is the impact of different elements of apprenticeship design on the costs and benefits from apprenticeship to employers and apprentices?

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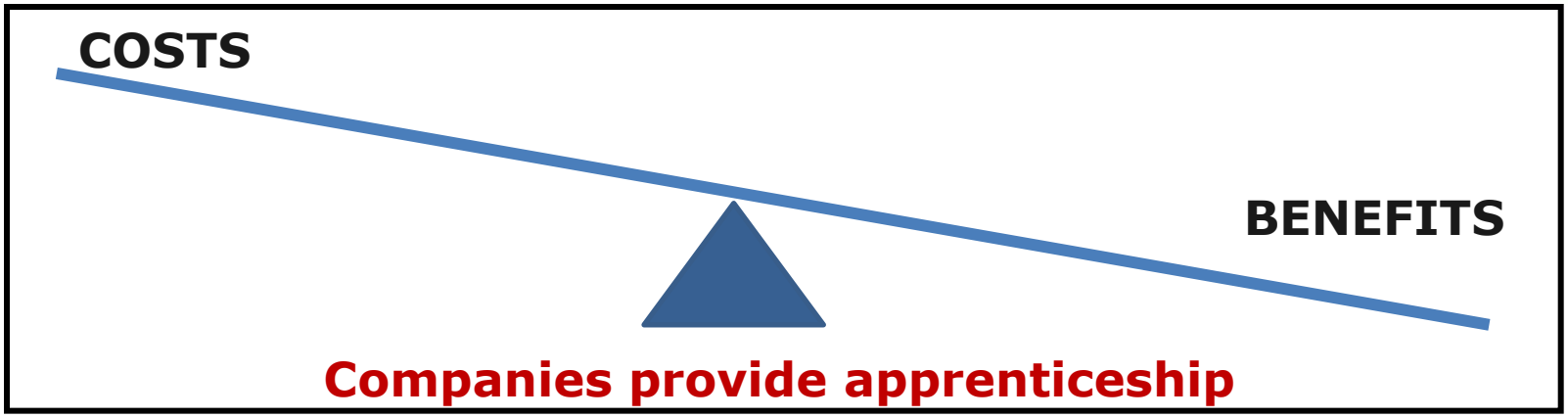
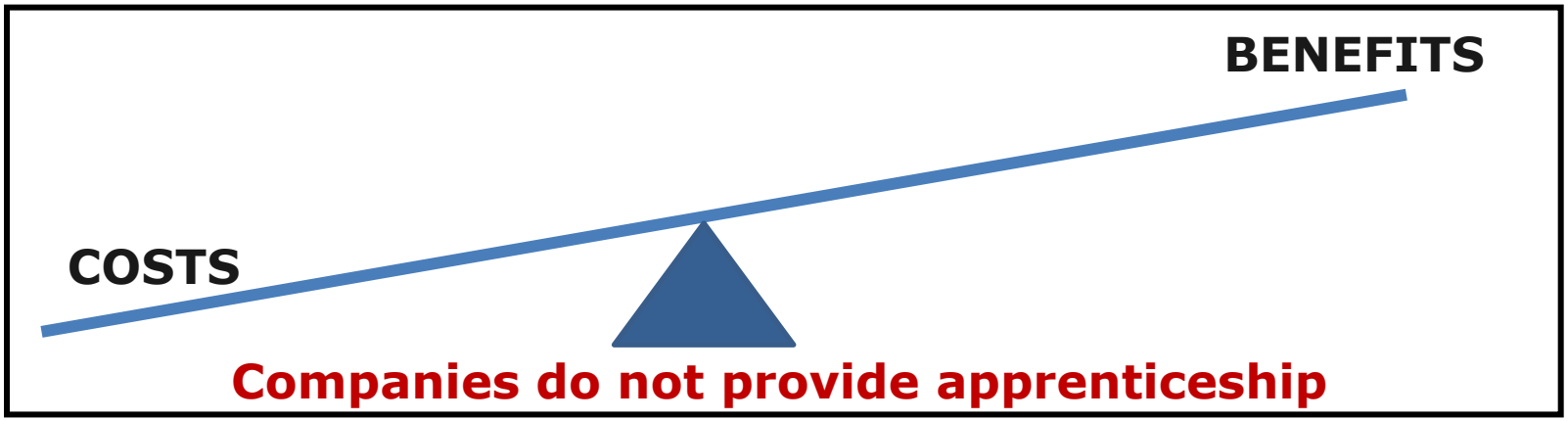
Costs and Benefits of apprenticeship

Basic principles





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Costs and Benefits of apprenticeship

Basic principles

COSTS

- Apprentice pay and other related expenditure (e.g. reimbursement of travel costs, social security benefits)
- Time and salary of work-based instructors
- Tools and equipment used by apprentices
- Administrative costs

BENEFITS

- The *productive* contribution of apprentices to the employer's productive work
- *Recruitment* of the most productive apprentice graduates
- Companies that offer apprenticeships enhance their *reputation* as companies investing in people

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Costs and Benefits of apprenticeship

What is the impact of different elements of apprenticeship design on costs and benefits to employers and apprentices?

- Duration of the programme
- Duration of the work placement with the company
- Content and organisation of the work placement
- Apprentice wage
- Training and management skills of instructors

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Costs and Benefits of apprenticeship

	Duration of the programme including off-the-job period and work placement with the company	Time with the company as a % of the total programme duration	Content of the work placement (time spent in productive vs non –productive tasks)	Does company have designated staff to train apprentices?	What is the apprentice wage?	Who are apprentices?
Norway	Mostly 4 years	50%; (last 2 years are spent with the company)	1 year of training 1 year of productive work	YES	20-80% of the skilled worker wage	Mainly young people with no or limited experience in the profession
Germany	3-3.5 years	Around 70%; (apprentices alternate periods in vocational school and in the company)	80% of the time with the company is spent on productive work and 20% on non-productive activities including training	YES	Around 40% of the skilled worker wage	Mainly young people with no or limited experience in the profession
England	Min 12 months (average 15 months in 2013/14)	Maximum 70%	Missing	Depends on the company	85% of apprentices are paid above the national min wage	Apprentices have to be employed. 2/3 of apprentices worked with the employer before starting the apprenticeship

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www.oecd.org/education/vet

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What the Research Tells Us

Moderator: Johan Uvin

Panelists

- ***Robert I. Lerman***, Institute Fellow, Urban Institute
- ***Svetlana Darche***, Senior Research Associate, WestEd
- ***Maria Flynn,*** Senior Vice President, Jobs for the Future
- ***Viktória Kis***, Project Manager, Work-based Learning in Vocational Education and Training, Directorate for Education and Skills, OCED
- ***Demetra Nightingale***, Chief Evaluation Officer, U.S. Department of Labor

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History of Work-Based Learning

Robert I. Lerman, The Urban Institute

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Svetlana Darche
Sr. Research Assoc.

WestEd

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Defining Work-Based Learning (WLB)

- An instructional strategy that prepares all students for success in postsecondary education and careers through direct engagement with industry and community professionals.

- Experiences intentionally designed to address learning outcomes that are difficult to achieve through classroom or standard project-based learning alone.

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Outcomes Sought by WBL

- Understanding of career options and skills required
- Development of knowledge and skills
  - Technical knowledge and skills
  - Application of academic knowledge and skills
  - "21st Century" skills (e.g., problem-solving, communication, collaboration)
  - Social-emotional skills
  - Navigational skills

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Work-Based Learning Continuum

Age 4 **Adult**

Career Awareness

Learning ABOUT work
Build awareness of the variety of careers available and the role of postsecondary education; broaden student options.

Career Exploration

Learning ABOUT work
Explore career options and post-secondary for the purpose of motivating students and to inform their decision making in high school and postsecondary education.

Career Preparation: Practicum and Internships

Learning THROUGH work
Apply learning through practical experience that develops knowledge and skills necessary for success in postsecondary education and careers.

Career Training

Learning FOR work
Train for employment and/or postsecondary education in a specific range of occupations.

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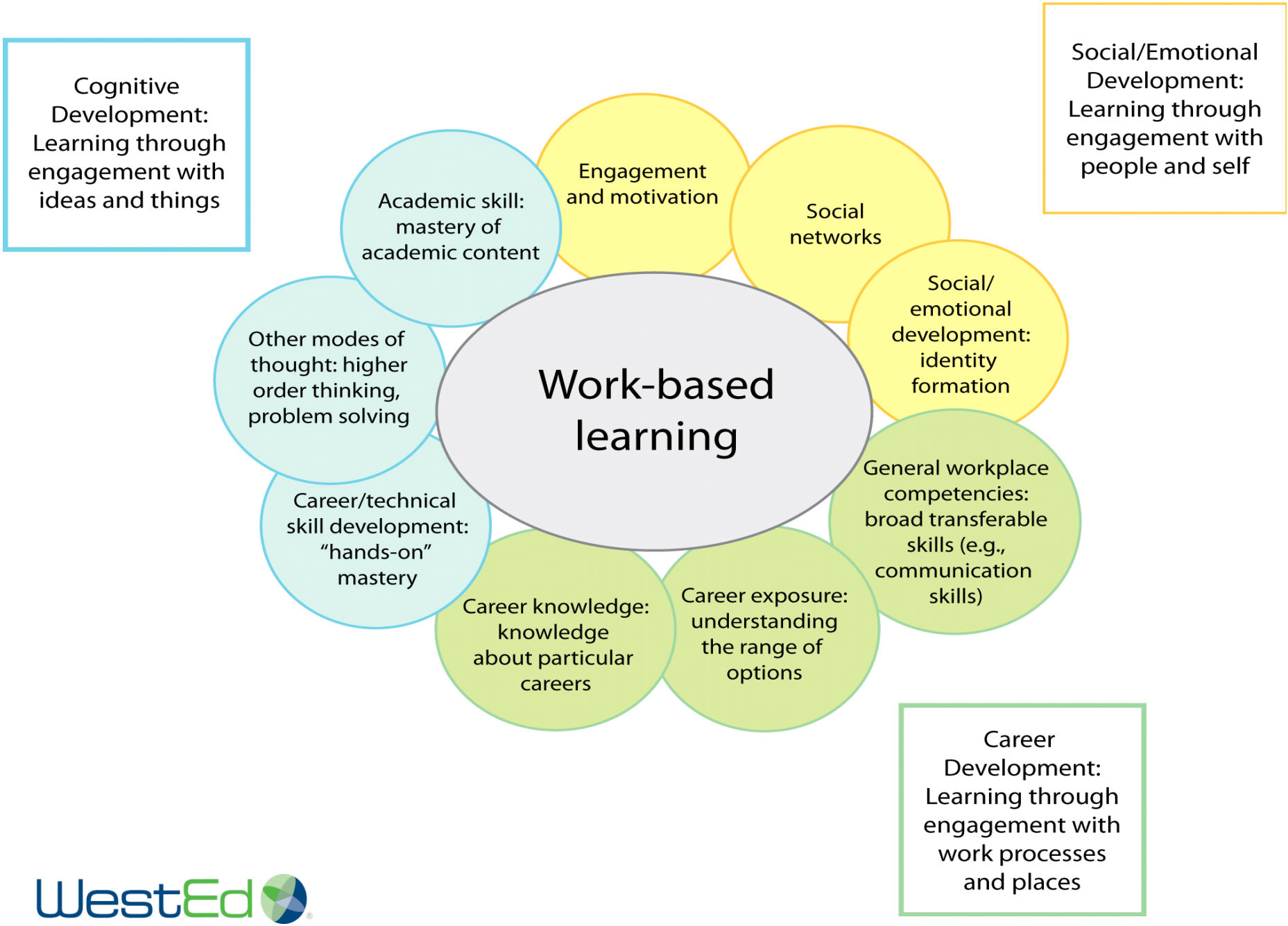
Cognitive Development: Learning through engagement with ideas and things
Social/Emotional Development: Learning through engagement with people and self
Academic skill: mastery of academic content
Engagement and motivation
Social networks
Social/ emotional development: identity formation
Other modes of thought: higher order thinking, problem solving
Work-based learning
General workplace competencies: broad transferable skills (e.g., communication skills)
Career/technical skill development: "hands-on" mastery
Career knowledge: knowledge about particular careers
Career exposure: understanding the range of options
Career Development: Learning through engagement with work processes and places

WestEd

Features of WBL

For all experiences

- Connection to classroom with focus on outcomes
- Direct, systematic employer and/or community input
- Authentic value and benefit to students beyond the classroom

For intensive career preparation-level experiences

- Depth of experience with opportunity to engage in CoP
- Production of goods/services with value to employers, clients, and communities beyond the classroom

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Why a Purpose-Driven vs. Place-Based Definition?

In the 21st C., when we want to prepare ALL students for postsecondary education/training, careers, and life-long learning…

- To address learning outcomes that may be attained through varied experiences
- To explore options that can enable us to scale work-based learning and ensure equity of access
- Because the workplace is changing and new skills and modes of work are needed

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New Model of WBL

- For all students — to apply classroom knowledge and develop essential career readiness skills not easily taught in classrooms
- Continuum of experiences provided over time
- Location determined by purposes and goals, including equity in access
- Structured learning component, with intentional learning goals and assessments, linked to both CTE and academic classes
- Supervisor as worksite mentor
- 360 degree view until focused training required

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Making WBL Work for Disconnected Youth

Organisation for Economic Co-operation and Development

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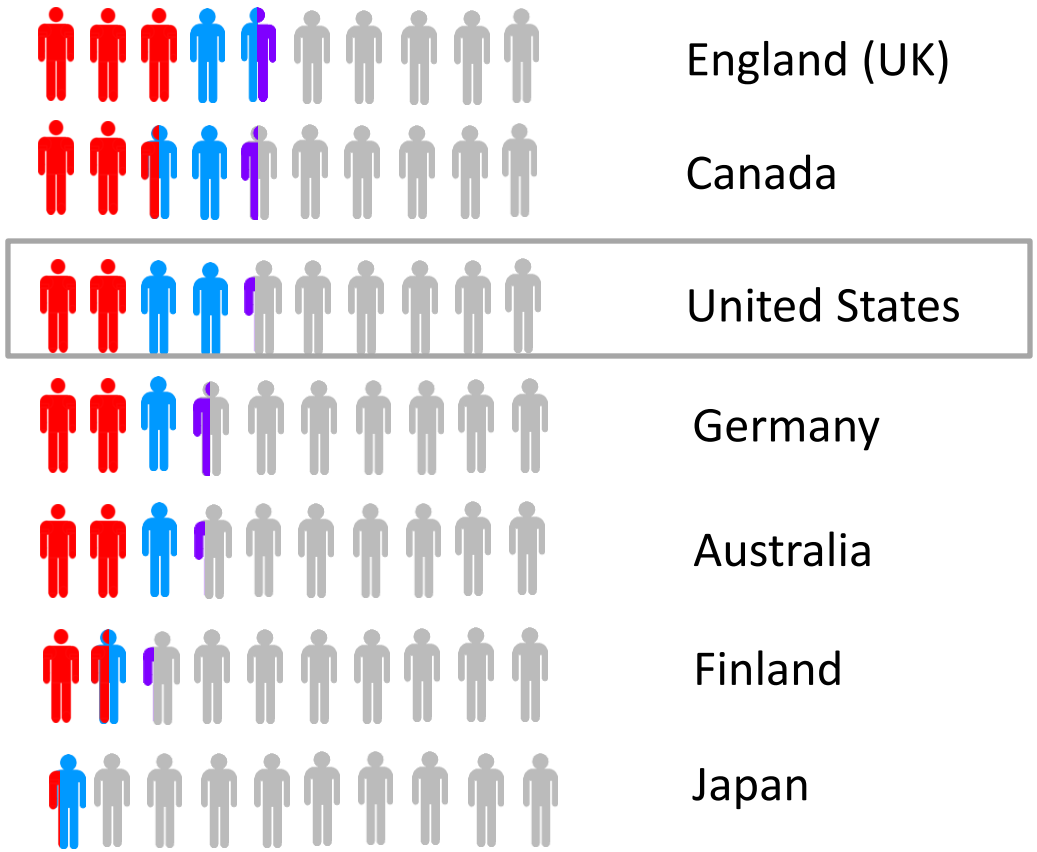
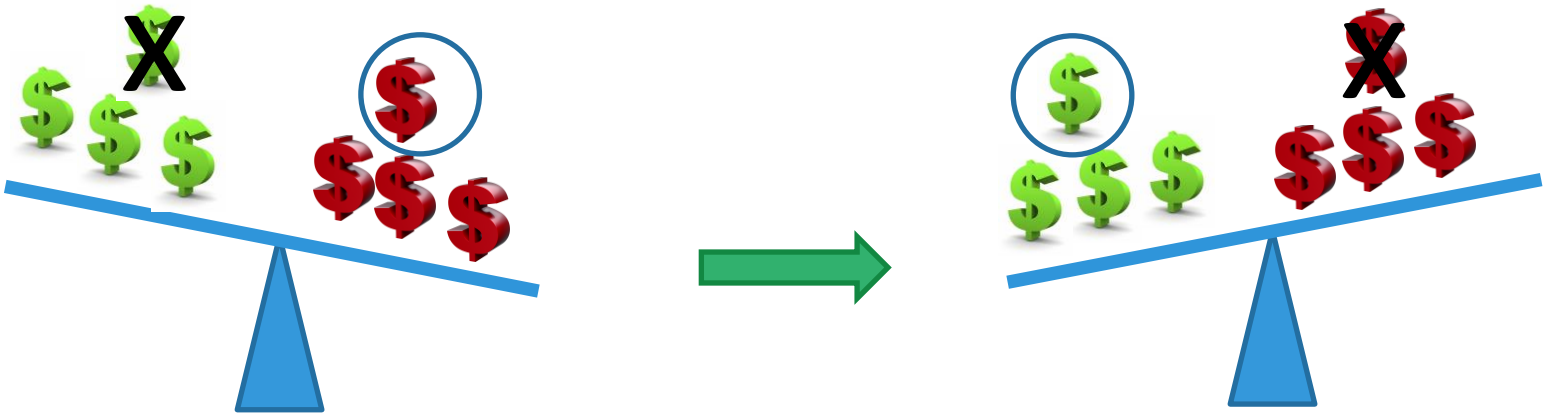
In the US 4 out of 10 disconnected youth face difficulties with basic skills



BETTER POLICIES FOR BETTER LIVES

Three policy tools



1 Preparing youth for work-based learning

2 Supporting youth engaged in work-based learning

3 Targeted subsidies and tax breaks

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Policy tool 1:

Preparing youth for work-based learning

The tool:

- Pre-apprenticeship type programs
- Common elements: literacy, numeracy, technical skills, career guidance

How should it help disconnected youth access to WBL?

- Better skills from the start → improved capacity to meaningfully contribute to productive work
- Better matching between trainees/apprentices and firms

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Policy tool 2:

Supporting youth engaged in work-based learning

The tool:

Additional support offered to trainees/apprentices who need it

How should it help disconnected youth access to WBL?

Trainees/apprentices learn faster and contribute more to productive work

BETTER POLICIES FOR BETTER LIVES

Policy tool 3:

Targeted subsidies and tax breaks

The tool:

Money given to firms who offer work-based learning opportunities to disconnected youth

How should it help disconnected youth access to WBL?

The costs of offering work-based learning are reduced

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Which policy tool works (best)?

How to use them best?

Policy report
in late 2016

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Evidence on Work-Based Training

Demetra Nightingale
Chief Evaluation Officer
U.S. Department of Labor

OECD
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Research and Evaluation Evidence

General Findings

- The more closely training is related to a real job or occupation, the better the results for training participants.
- Most training in the U.S. is work-based and employer sponsored
  - Over a quarter of all workers report that they receive some formal job training from their employers, and
  - About 70 percent of firms indicate they offer some type of training to employees
- Firms tend to invest in higher level workers (e.g., management and mid-level workers)
- Government investment in lower-skilled workers expands work-based training

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Benefits to Workers
Findings from evaluations

- OJT (e.g., 6-9 months subsidy of 50-60% of wages)
  - Increases employment over time, increases earnings
- Registered Apprenticeships
  - Increases lifetime earnings of an average of $8,000 a year, and about $200,000 in lifetime earnings
- Summer jobs for youth
  - Important source of income and positive engagement
  - Comprehensive models that mix work-place job with education, mentoring, and personal counseling have positive impact—Chicago study found large reduction in violent crime and arrests.

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Benefits to Workers
Findings from evaluations

- Workplace-based literacy programs
  - Improved skills, attendance, and job performance
- Subsidized or Transitional jobs—evidence is more mixed, but it is an important model
  - Provides short-term income and work
  - For low-skilled workers, youth, new immigrants/refugees, formerly incarcerated and persons with barriers to employment, provides skills and work experience if the training and assignment is of high quality
  - The key to long-term success is to actually transition to a regular job—that is sometimes challenging
  - Some positive evidence on reducing recidivism among formerly incarcerated

Benefits to Employers

Findings from research

- Less research on employers and firms
- Firms benefit from workplace training—if the training is high quality.
  - Lower turnover
  - Higher productivity
  - Positive returns to shareholders
- Little research yet estimating Firms' Return on their Investment

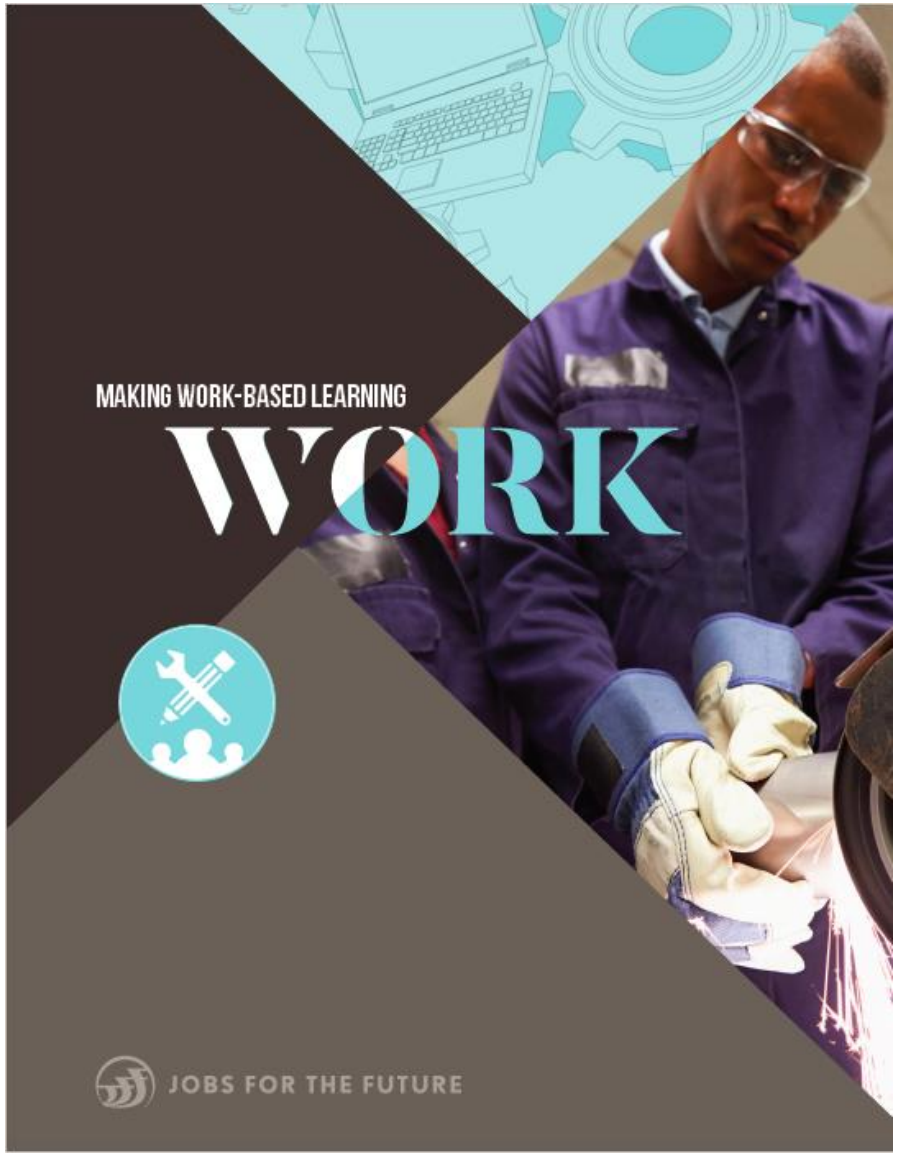
Jobs for the Future

Maria Flynn

JOBS FOR THE FUTURE

NEW JFF PUBLICATION

Making Work-Based Learning Work



JFF's Work-Based Learning Models in Action:

- Showcases examples of different WBLs that incorporate one or more key principles
- Briefs currently available: Industrial Manufacturing Technician (IMT) Apprenticeship, Work-Based Courses
- Additional briefs coming soon

JOBS FOR THE FUTURE

WHAT IS WORK-BASED LEARNING?

OCCURS IN WORKPLACES

HAS MEANINGFUL JOB TASKS

DEVELOPS SKILLS AND KNOWLEDGE

SUPPORTS CAREER ENTRY AND ADVANCEMENT

CORE PURPOSES:

- Exposes participants to the world of work
- Exposes participants to a career field
- Strengthens academic learning
- Enhances professional skills
- Provides a temporary or permanent job

JOBS FOR THE FUTURE

BENEFITS OF WBL

BENEFITS TO PARTICIPANTS

- Develop professional and career-track skills
- Gain real-world work experience
- Earn postsecondary credentials that match employer expectations and needs

BENEFITS TO EMPLOYERS

- Employees have the information and skills needed to make informed job and long-term career choices
- Reduced turnover
- Greater productivity
- Lower costs

JOBS FOR THE FUTURE

THE NEED FOR EQUITY IN WBL

A lack of access to work-based learning limits the career prospects and economic mobility of millions of youth and adults, and prevents them from becoming part of the talent pipeline employers need to spur economic growth.

70% of employers offer some form of WBL to employees

$177 BILLION spent by employers on training annually

58% spent on employees with a BA or higher

25% spent on employees with some college (sub-BA)

17% spent on employees with a high school diploma or less

OVERVIEW OF WBL MODELS

	INTERNSHIPS	CO-OPS	TRANSITIONAL JOBS	ON-THE-JOB TRAINING	APPRENTICESHIPS
POPULATION SERVED	Secondary, Postsecondary, Opportunity Youth, Recent Grads, Adults	Secondary, Postsecondary	Opportunity Youth, Individuals w/Barriers to Employment	Dislocated Workers, Low-Skilled Adults, Opportunity Youth	Opportunity Youth, Incumbent Workers, New-Career-Seekers
CORE PURPOSE	› Exposure to career field, world of work › Development of professional skills › Academic learning › Temporary job	› Academic learning › Development of career-track skills › Temporary job	› Exposure to world of work › Development of professional skills › Temporary job	› Development of career-track skills › Permanent job	› Academic learning › Development of career-track skills › Permanent job

7 PRINCIPLES FOR EFFECTIVE WBL

Support entry and advancement in a career track

Offer compensation

Reward skill development

Provide comprehensive student supports

Provide meaningful job tasks that build career skills and knowledge

Identify target skills and how gains will be validated

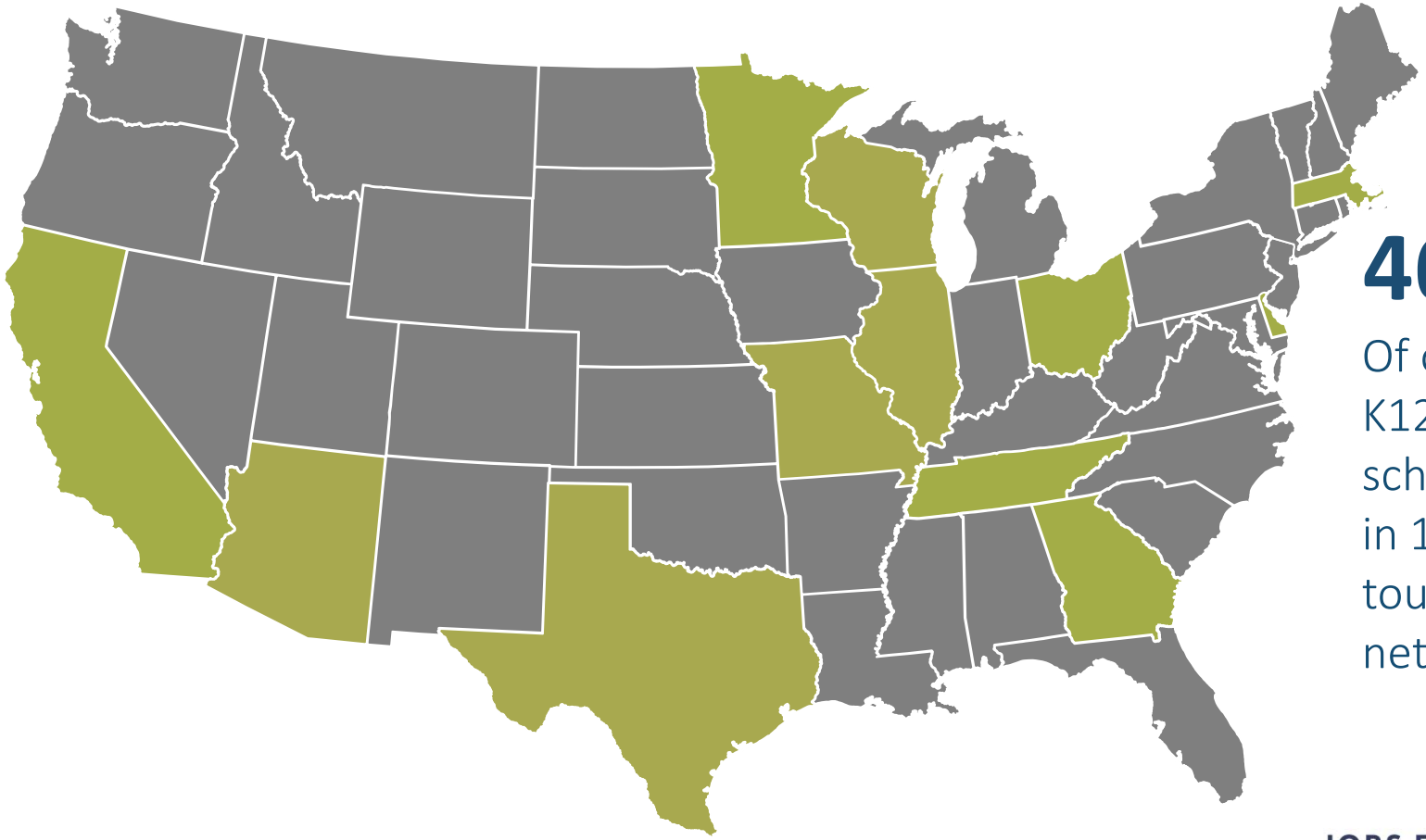
Support college entry, persistence, and completion

Youth WBL

JOBS FOR THE FUTURE

GROWING PATHWAYS TO PROSPERITY NETWORK

Twelve states with over 50 regions, rural to urban, serve as starting places for demonstrating success, with a focus on scaling grades 9-14 integrated academic and career pathways statewide.



46%

Of our nation's K12 public school students in 12 states are touched by the network

JOBS FOR THE FUTURE

CONTINUUM OF EMPLOYER ENGAGEMENT IN YOUTH WBL

Least Intensive Engagement

- Guest speaker
- Company tours and field trips
- Job shadows
- Mock interviews

Moderately Intensive Engagement

- Service learning
- Class projects or challenges
- Mentorships
- Curriculum advising

Most Intensive Engagement

- Teacher externships
- Student internships
- Student capstones and assessments
- Convening and championing
- Apprenticeship

JOBS FOR THE FUTURE

STATE STRATEGIES FOR WBL

- Cultivate highly visible employer champions
- Support and highlight districts actively involved in career development education and WBL
- Disseminate effective practices to other districts/regions
- Align education programs of study with state labor market needs and economic development priorities
- Use bully pulpit to emphasize that ***all* young people** (in K12, community college, four-year college, and beyond; liberal arts or technical studies) **are headed for a career, and that WBL matters**
- Education policies: extended learning time, credit for WBL, teacher externships

Incumbent Worker WBL

JOBS FOR THE FUTURE

JOBS TO CAREERS

- The Jobs to Careers (J2C) initiative was funded by the Robert Johnson Wood Foundation (RJWF) and the Hitachi Foundation, and managed by Jobs for the Future
- 17 sites across the country (allied health, long-term care, community health, and behavioral health)
- Tested work-based learning as a career advancement strategy. Formalized learning that occurred on the job
- 1,000 frontline health care workers:
  - 67% wage increase
  - 65% credential attainment

WORK-BASED COURSES

- Builds on J2C with a focus on manufacturing. Funded by National Science Foundation (NSF)
- An innovative way to bring college to the production line by using the job as a learning lab
- Key features:
  - Integrates the classroom and workplace by formalizing instruction that happens during work
  - Reflects the unique production needs of a company because teaching happens on the job
  - Fulfills program requirements for a community college certificate or degree

www.jff.org/workbasedcourses

BENEFITS OF WORK-BASED COURSES

- Community Colleges
  - Meet the needs of employers while maximizing value to students and maintaining academic standards
  - New student enrollment as gateway to certificate and degree programs
- Employers
  - Rigorous academic training for hard-to-fill positions
  - Tailored to their production processes and skill needs
  - Improve retention and loyalty among workers
- Students
  - Opportunity for career and educational advancement while working
  - Training immediately helps on the job
  - College credit and knowledge can be transferred across the industry

PRELIMINARY OUTCOMES

- JFF developed the model and piloted it with Owensboro Community Technical College in Kentucky, with funding from NSF
  - 115 students enrolled
  - 15 manufacturers participated including Aleris Corporation, Crop Production Services, Kimberly Clark, and Waupaca Foundry
- Interim outcomes of pilot
  - **27 courses** adapted, including in industrial maintenance, fluid power, PLC, machine tooling, welding, and blueprint reading
  - Work-based course students outperformed students in comparable traditional OCTC classes, with an **average GPA of 3.89 vs. 3.46**
  - Students earned an average of **11 credits**
  - **26%** of incumbent participants plan to go on to a degree. New workers have also enrolled as part of an 18-month A.A.S. degree
  - **62%** of students reported a promotion or new role and **57%** reported a wage increase in a post-course survey

OTHER FINDINGS

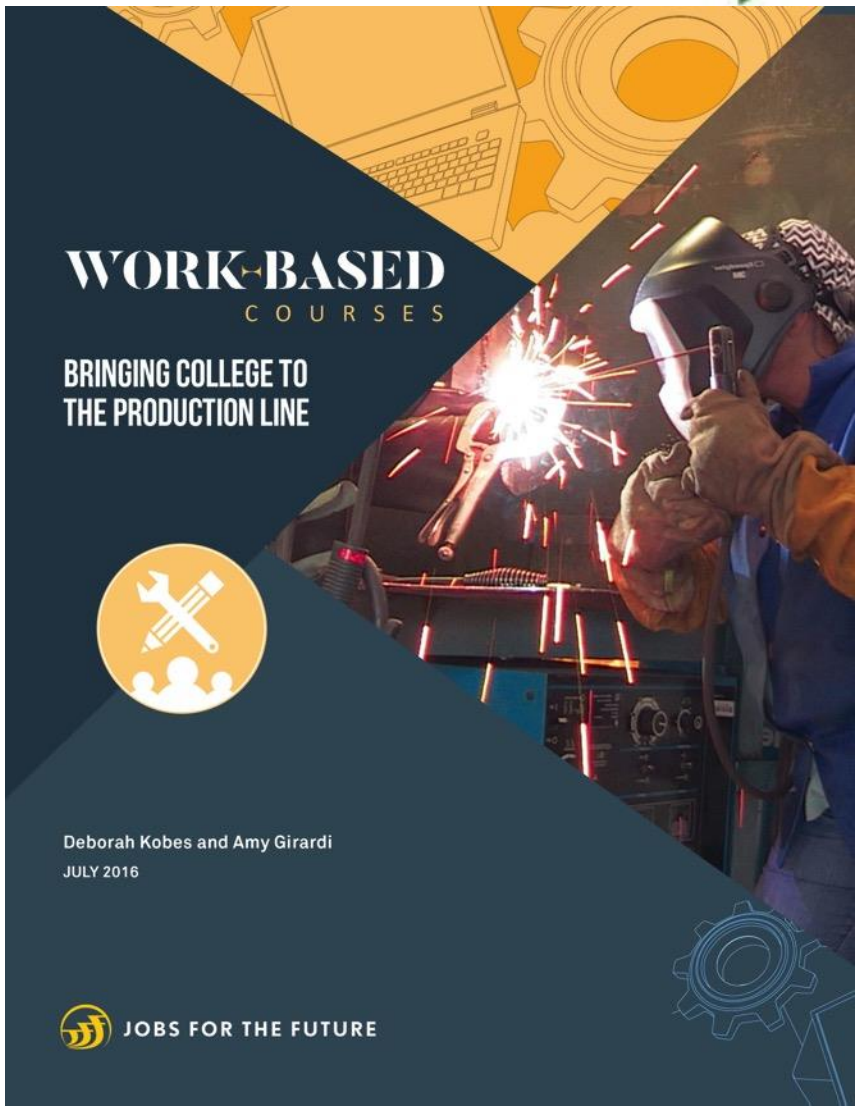
- Employers use work-based courses either to:
  - Better prepare workers for current jobs, or
  - As part of a strategy to develop talent for hard-to fill positions—this was correlated with more wage increases and promotions
- Supervisor training is critical: supervisors or other employer mentors were often uncomfortable with their role as instructors
- Selection of work-based course students was driven by employers, not college or course preparation

"As a peer mentor, one piece of my accountability is not only transferring that knowledge, but making sure I understand when they need to move to the next step."
- Tim Sheldon, Organizational Effectiveness Specialist, Kimberly-Clark

WORK-BASED COURSES

Read more about work-based courses, learn the six steps to implementation, and watch videos in an online toolkit:

www.jff.org/workbasedcourses



This material is based on work supported by the National Science Foundation under Grant No. 1304249. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

IMT APPRENTICESHIP

- Industrial Maintenance Technician—stackable apprenticeship, easily adapted for different contexts, hybrid model (time-based and competency-based)
- JFF in partnership with AFL-CIO Working for America Institute, industrial unions, and regional intermediaries
- 164 registered apprentices to date
  - 26 apprentices achieved journey worker status
- Currently replicating in 8 states (WI, MI, MN, PA, KY, IN, OH and IL)
- USDOL H-1B and American Apprenticeship Grant funding

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, expressed or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This product is copyrighted by the institution that created it.

Reaction Panel from Abroad

International Guests

Moderator: Johan Uvin

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Networking & Refreshment Break

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BETTER POLICIES FOR BETTER LIVES

What the Trailblazers are Doing

State and local level system from U.S. and Abroad

Moderator: Mary Alice McCarthy

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What the Trailblazers are Doing

Presenters:

- **Annie Blackledge**, Mockingbird Society, Washington State
- **Edison Freire**, School District of Philadelphia, Pennsylvania
- **Simon Marti**, Embassy of Switzerland
- **Brandon Spence**, South Carolina Technical College System
- **Bahiy Watson**, 1881 Institute of Technology, Louisiana

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Youth Voices Panel

Vision of effective paths into adulthood and careers

Moderator

John Ladd, Office of Apprenticeship
U.S. Department of Labor

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Youth Voices Panel

Presenters:

- **Maalik Groves**, Computer Support Specialist at Urban Technology Project, Philadelphia, Pennsylvania
- **Shanelle Lockhart**, Graduate of Urban Technology Project & Information Technology Career and Technical Education (CTE) Teacher, School District of Philadelphia, Pennsylvania
- **Chloe Starcher**, Apprentice at JATC 24, Baltimore, Maryland
- **Dequan Wilkins**, Urban Alliance Intern

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Site Visits to Work-based Learning Experiences

Blue - A – Amy Firestone
Green - B – Carol Aguirre
Yellow - C – Laura Ginsburg
Orange - D – Darian Perez
Purple - E – Sherene Donaldson
Rose - F – Jennifer Troke

http://sites.ed.gov/octae/visits/

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Site Visit Schedule

Site 1	Fresh Start	Plumbers	1881 (at Hyatt)	Baltimore EJATC	Digital Harbor	IUOE
Site 2	**Plumbers**	**Fresh Start**	**Baltimore EJATC**	**1881 (at Hyatt)**	**IUOE**	**Digital Harbor**
Depart Hyatt	1:00pm	1:00 pm	NA	1:00 pm	1:00 pm	1:00 pm
Arrive Site 1	1:10pm	1:45 pm	1:10 pm	1:30 pm	1:10 pm	1:45 pm
Depart Site 1	2:10pm	2:45 pm	2:10 pm	2:30 pm	2:10 pm	2:45 pm
Arrive Site 2	2:55pm	3:30 pm	2:40 pm	3:00 pm	2:55 pm	3:30 pm
Depart Site 2	3:55pm	4:30 pm	3:40 pm	4:00 pm	3:55 pm	4:30 pm
Arrive Hyatt	4:40pm	4:40 pm	4:10 pm	NA	4:40 pm	4:40 pm

Lunch

Available for Purchase

Buses depart at 1:00 p.m.

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