Washtenaw Community College

Intentionally Growing New Information Technology Employees in Michigan (IGNITE)

FERA Final Evaluation Report

October 2012 - September 2016

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EXECUTIVE SUMMARY

IGNITE Overview

Purpose. The Intentionally Growing New Information Technology Employees in Michigan's (IGNITE) initiative was designed to build Washtenaw Community College's (WCCs) capacity to offer Information Technology (IT) courses in a blended learning format and to train or re-train people for jobs in the IT sector. This is an executive summary of the final IGNITE evaluation report, funded by a U.S. Department of Labor Grant as part of the Trade Adjustment Assistance Community College and Career Training Grant (TAACCCT) (2012 -2016).

Evidence-based model and specific interventions. IGNITE was comprised of multiple evidence-based best practice elements including: 1) case-management academic and career counseling support services designed to foster student success;2) contextualized learning, including assessments to identify remediation needs and curriculum to address academic and marketable career skills; 3) courses in blended learning format to improve student accessibility to IT courses, developed by teams including faculty and instructional design experts; 4) soft-skills training, formally through non-credit programming (leading to national certificate) and more informally in credit courses and extra-curricular activities; and 5) schedule of courses, including accelerated options, in late afternoon-evenings to facilitate adult participation.

Population served. IGNITE served students interested in exploring and/or pursuing an Information Technology career. These included low income, and nontraditional male and female students. IGNITE was originally designed to target unemployed veterans and displaced workers for enrollment. An improved economy and changes in available resources, resulted in difficulty recruiting these populations.

Evaluation Design Summary

Evaluation Goals

1) Provide formative feedback that could be used to strengthen IGNITE; 2) assess institutional capacity and systems-level change (both intended and unintended); and 3) document the outcomes of a blended learning format for students.

Implementation Study Design

FERA used a participatory developmental/formative approach focused on learning for action. FERA engaged key stakeholders in both the design and the data analysis/interpretation phases of the evaluation. WCC stakeholders were engaged annually - first to identify evaluation purposes, questions and uses, and second, to analyze evaluation data including identification of key findings, implications, and recommendations for strengthening IGNITE interventions and outcomes. The focus of the guiding implementation questions was: How well does the implementation of IGNITE's various aspects work? What are the supports and challenges? How can IGNITE be strengthened? What are the external contextual factors that affect implementation?

Early on the implementation study centered on aspects of the program theory related to building the IGNITE team, recruitment, course development, professional development and student support. The implementation study had a later focus on student services and on how to strengthen partner relationships for placement support. Analysis resulted in recommendations for strengthening program implementation.

Implementation study methods.   Implementation data gathered came primarily from extensive annual interviews with IGNITE team members, from interviews with partners in two years, and from FERA participation in team meetings. Collaborative review of the data allowed IGNITE team members to reflect on how to strengthen IGNITE team operations and activities and led to improved group cohesion and some substantive changes over the years.

Measurement of capacity building.   FERA used specific metric indicators or more general indicators regarding the following: course production, curriculum track enrollments, Distance Learning staffing, policies and procedures, professional development opportunities and attendance, hardware and software purchases. The evaluation also addressed qualitative implementation issues affecting capacity building including those related to team cohesion and different faculty member levels of readiness to use certain interactive technologies in courses.

Outcomes/Impact Study Design
FERA assessed outcomes at multiple levels. The focus of the guiding overarching impact/outcome questions was: What are IGNITE's institutional, capacity-related, partnership and student outcomes? What are key barriers to retention and completion and to academic success for IGNITE students? What are the external contextual factors that affect IGNITE and student outcomes?

A quantitative descriptive analysis was conducted using multiple methods to triangulate the data (making sure we heard similar things from different data sources to increase the validity of the data). This evaluation was not designed to make causal inferences. However, we believe that the methods used allowed us to fully capture outcomes and to better understand what supported and hindered systems level change at WCC. Participatory data interpretation provided opportunities to reflect on outcomes over the course of the grant and to make changes when outcomes were not as expected and to build on successes.

Outcomes/Impact study methods and data sources.   To assess institutional systems-level change FERA interviewed key team members annually (administrators, staff and faculty), interviewed external partners twice, reviewed records, and attended meetings. IGNITE student outcome data was compiled by WCC's Office of the Registrar/Student Records. Employment-related outcomes were compiled and analyzed by Social Policy Research Associates. All these data were provided to FERA by the IGNITE program manager. FERA surveyed IGNITE students in years II, III, and IV and interviewed a small sample of students in years II and IV.

Outcomes/Impact measurement. FERA assessed systems-level outcomes, including changes in institutional infrastructure and capacities, staffing, policies and procedures, mindsets, and cross departmental collaboration. Partner outcomes include changes in the extent of interaction between the college and its partners.   Student outcomes include the nine required by the Department of Labor. FERA's student-related data focused largely on strengths, challenges and benefits of the program.

Implementation Findings

- The IGNITE grant was used to build capacity by allowing the college to a) hire needed Distance Learning staff and student support services staff; b) provide staff and faculty professional development; c) purchase needed hardware and software; d) reach out to partners to strengthen their input on curriculum and involvement in course and extra-curricular activities to benefit students and faculty; and e) strengthen placement support for students.

- The program design was developed by WCC in consultation with some of the partners and other regional organizations.

- Key steps taken: WCC: a) established a cohesive IGNITE team of personnel from various areas of the college and new IGNITE staff; b) received input from partners on curriculum, e.g. selection, content, student activities, and engaged them in recruitment and placement activities; c) responded to unexpected recruitment challenges with more intense recruitment activity; d) developed and piloted non-credit programming; e) provided staff and faculty with professional development on creating blended learning courses; f) developed and piloted CIS blended learning courses using teams of faculty and instructional designers; and g) enhanced student advisement and placement support services. The IGNITE team actively participated in the evaluation and made changes based on evaluation findings.

- Employer partnerships: WCC partnered with five information technology employers located in southeastern Michigan. Some employers contributed to IGNITE at the early curriculum development stage whereas others contributed later with course refinement and student placement.

- Michigan Works! partnerships: Although the Michigan Works! agencies could not support participant recruitment as much as expected, they helped with some recruitment and with networking with area employers.

- Regional workforce development networks partnerships: The Workforce Intelligence Network for Southeast Michigan (WIN) provided IGNITE occasional research reports and supported recruitment and placement efforts throughout its network. Ann Arbor SPARK supported recruitment and placement activities, but could not conduct ongoing non-credit training for IGNITE as expected due to state-level funding cuts.

- Fidelity to original programming design.
  - WCC successfully used its non–credit programming to develop its basic skills assessment capabilities for prospective students, but could not offer its IT readiness course beyond a pilot stage due to low enrollment and lack of Trade Adjustment Assistance (TAA) funding for tuition. Thus, assessment through the non-credit division was mostly limited to basic skills and simple career exploration.
  - IGNITE's academic advisor advised IGNITE participants and made referrals as needed. The internship coordinator provided career and placement guidance.
  - Miscellaneous: SPARK non-credit programming was discontinued due to cutbacks in state support. Recruitment of individuals supported with TAA funds was more challenging than expected, so outreach was made to other individuals. Staff positions for student services were enhanced mid-point, as the need was observed.

- Key operational strengths included: a) engagement of external partners; b) re-organization of Distance Learning to increase department effectiveness and capacity; c) use of participatory evaluation approach to allow team to together regularly review evaluation findings, have needed discussions, and make recommendations for program improvements; d) experienced IGNITE personnel in key staff positions; and e) integration of IGNITE staff members in various WCC departments.

- Key operational weaknesses/challenges included: a) lack of faculty engagement in grant development; b) WCC culture of having little cross-departmental collaborative activity; c) improvement in Michigan's economy over the grant period reducing the pool of people seeking training and causing recruitment challenges; and d) state and federal cutbacks of partner programs affecting student recruitment.

Outcomes Findings

A key focus of IGNITE was on building WCC's capacity to develop and offer IT courses in a blended learning format. This evaluation examined outcomes and impacts in three areas: 1) the Computer Information Services (CIS) academic department that offers the three IT credit career pathways; 2) IGNITE participants; and 3) institution-wide impacts.

Impact on CIS Department – Key Departmental Changes

- CIS staff and faculty have a more positive mindset towards the development and use of blended learning format and innovative curriculum ideas.

- The department's IT Career Pathway has been strengthened. Results: 1) expanded course offerings – now blended learning formats in the Java, Linux/Unix and Microsoft Technology Associate (MTA) pathways; 2) increased Java enrollments by 196% (2011-2012 (pre-IGNITE) and 2015-16); 3) more consistent offerings of upper-level courses; 4) faculty find that their work developing the blended learning courses and increased use of interactive tools strengthens their teaching in all formats.

- To address student retention concerns with the blended learning format IGNITE developed strong student support services. Result: CIS enhanced its academic advisor role, strengthened group study support, and has stronger connections with Career Services for student internship and placement support.

- CIS has stronger strategic alignment with new and pre-existing partners (IT employers, workforce development organizations, and MichiganWorks! agencies). Result: CIS receives more input on market needs for technical and soft skills, offers more student and faculty networking opportunities with employers and finds partners are more familiar with WCC students and personnel.

Participant Outcomes

Total unique participants served	297
Total number of participants who have completed a TAACCCT-funded program	70
Total number of participants still retained in their program of study or another TAACCCT-funded program	26
Total number of participants completing credit hours	118
Total number of participants earning credentials	178
Total Number participants enrolled in Further Education After Grant-funded Program of Study Completion	48
Total number of participants employed after grant-funded program of study completion	0*
Total number of participants retained in employment after program of study completion	0**
Total number of those participants employed at enrollment (for purposes of this reporting, "incumbent workers") who receive a wage increase post-enrollment.	65***

* Aggregate student data was too small to meet DOL minimum cell size reporting requirements (more than three) and to maintain student-confidentiality thus 0 or NA is reported in this data element
** Same as above on minimal cell size
*** Employment data for the last three outcomes came from SPRA (see Appendix C).
Notes: Total number of participants still retained in their program of study or other TAACCCT-funded program: This is as of 03.31.2016. Total number pursuing further education after program of study completion: completed program of study and enrolled in subsequent semester. This report includes credit and non-credit data. Non-credit student data is only reported in Total number of participants, Total number of completers, and Total number of participants earning credentials.

Factors contributing to student success in blended learning identified by faculty and students include: the ability to access course materials anytime 24/7, face-to-face instructor support, online opportunities for self-check, and online activities and resources. Students identified the following barriers: self-paced nature of the course, not enough interaction with faculty and fellow students, technical issues with online learning, and personal or work-related factors were obstacles in their coursework.

Impact on WCC – Key Institutional-level Changes

♦ Re-organization of Distance Learning department and new college-wide model for developing online/blended learning courses with increased collaboration across departments.

  o Result: Enhanced capacity to develop courses in a blended learning/online format, e.g. expanded from development of 8 courses in 2014 to a projected 42 courses in 2016. In academic year 2015-16 there was a 73% decrease in costs for blended/online course production, and a 25% increase in online/blended learning course enrollment.

♦ IGNITE professional development opportunities strengthened WCC personnel skills in developing high-quality blended learning courses.

♦ Improved infrastructure and institutional processes used to develop blended learning/online courses, and to maintain and upgrade hardware and software.

♦ WCC increased its understanding of the importance of having a dedicated experiential learning staff.

  o Result: new WCC position in Career Services to work with academic departments, students and area employers to facilitate student experiential learning activity.

♦ Stronger partnerships and WCC/IGNITE participation in conferences increased local and regional awareness of WCC's capability to serve its students and employers with IT needs

Limitations to interpreting findings. Student surveys had relatively low return rates ranging from 15 to 21%. The numbers of students interviewed over the grant period is low, despite extensive efforts by FERA and IGNITE staff to reach students and obtain their consent to be interviewed.

Conclusions

Key lessons learned

♦ Faculty engagement early on (prior to submission of a grant proposal) is critical. Use of a team approach to blended learning course development and work across silos supports institutional-level change. It takes time to establish new relationships, new mindsets, and new ways of working.

♦ Engaging employers requires ongoing attention and clear communication about expectations. Relationship building with external partners needs to be ongoing and would benefit from a system for tracking relationships/activities across WCC.

♦ Students benefit from multiple touchpoints at the college. One-on-one tutoring and group study sessions and are particularly important for students in blended learning/distance learning courses. Having a dedicated academic and career advisor benefits students.

♦ IT is a constantly changing field; therefore, teaching and learning need to continually adapt. Planning for sustainability (e.g., new staff positions, upgrading and maintaining hardware/software) is critically important and can be challenging.

♦ Investing in relationship building and the ability to tell one's story internally and externally are key.

♦ It can be challenging to sustain non-credit programming as a pipeline for IT credit programs without student interest and affordable payment options.

Implications for future research. Examining students' histories before a program like IGNITE and the two years following could illuminate barriers to school and workplace access and success. A case study approach is recommended.

INTRODUCTION

This document is the final evaluation report for the Intentionally Growing New Information Technology Employees in Michigan (IGNITE) grant. Washtenaw Community College (WCC) received this four-year grant from the U.S. Department of Labor to develop and implement new programming as part of the Trade Adjustment Assistance Community College and Career Training Grant (TAACCCT) (October 1, 2012 – September 30, 2016). Formative Evaluation Research Associates (FERA), a woman-owned evaluation company based in Ann Arbor, Michigan, was selected as the independent, external evaluator of the IGNITE grant. FERA has worked with nonprofits and their partners for over 40 years to evaluate their efforts.

Michigan will have an estimated 274,000 STEM-related positions by 2018 as detailed in a report by STEMconnector® and My College Options® titled, *Where are the STEM Students? What are their Career Interests? Where are the STEM Jobs?* Many of these jobs are likely to be located in southeast Michigan where Washtenaw Community College (WCC) is located. IGNITE Michigan was created to better connect workforce development education with these rapidly emerging jobs.

This report is divided into the following six sections: 1) Evaluation Design; 2) IGNITE Overview; 3) Implementation Feedback; 4) Outcomes for the Computer Information Services department, for IGNITE students, and for Washtenaw Community College as a whole; 5) Lessons Learned; and 6) Conclusions.

EVALUATION DESIGN

> *"Such good discussions! I really get a lot out of all of our [evaluation] meetings and it is a great time for reflection and process improvement." (WCC Staff)*

FERA's Approach to Evaluation Facilitates Learning

It is developmental, participatory, outcomes-focused, and encourages use. Although FERA is external and independent, we consider ourselves a partner at the table. To facilitate learning for action we use processes that engage stakeholders to 1) guide the evaluation design; and 2) participate in interpreting data and developing recommendations for how to strengthen the program/process, its implementation, and achieve successful outcomes.

Purposes and Questions

The key purposes of the IGNITE evaluation were to a) obtain formative feedback about IGNITE and develop actionable recommendations for improving IGNITE and next steps, b) understand the contextual factors affecting program success, and c) assess IGNITE's outcomes and impacts[1]. Evaluation questions addressed information requested by the U.S. Department of Labor (DOL) as well as specific questions of interest to local stakeholders. Specific questions answered each year can be found in the Year II and III interim evaluation reports. Since IGNITE was designed primarily to build WCC's capacity to provide IT curriculum in a blended learning format and to develop strong student supports, the evaluation focused largely, but not exclusively, on the capacity-building activity aspect of the program. The overarching guiding evaluation questions are:

1. How well did the implementation of IGNITE's various aspects work? What were the supports and challenges? How can IGNITE be strengthened?
2. What are IGNITE's institutional, capacity-related, partnership, and student outcomes?
3. What are key barriers to retention and completion and to academic success for IGNITE students?
4. What are the external contextual factors that affect IGNITE and student outcomes?

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[1] We are using the colloquial meaning of impact to signify that there has been a change.

Evaluation Design

In Years I, II, and III, FERA conducted an evaluation design workshop with key stakeholders to review and prioritize evaluation purposes, questions, and uses for that program year. WCC and FERA originally envisioned the evaluation to include a quasi-experimental design component to assess student impact, which would have involved distinct cohorts of IGNITE students and a comparison group. However, a thorough review of the evolving program and possibilities for a comparison group revealed that such a design was not possible or even of value considering the many constraints. In consultation with the IGNITE team and the national evaluator, FERA revised the evaluation plan in Year I and submitted a memo with reasons for changes to the Department of Labor Program Officer (see Year II evaluation report). The revised plan focused more on rich qualitative and quantitative data that could be used to inform capacity-building efforts and to strengthen outcomes.

Data Collection Methods

Annually, FERA participated in IGNITE team meetings four times a year, select IGNITE Partner meetings, and reviewed WCC data and program documents. Additional data collection methods included:

Year II

- Individual interviews with project team members including WCC administrators, faculty and staff (n = 17);
- IGNITE student online survey (n = 18, 21%);
- An Instrumented Group Interview (similar to a focus group) with a small group of students (n = 3); and

Year III

- Individual interviews with project team members including WCC administrators, faculty and staff (n = 16);
- IGNITE student online survey (n = 12, 15%)
- Individual telephone interviews with partners (n = 11)

Year IV

- Individual interviews with project team members including WCC administrators, faculty and staff (n = 15);
- IGNITE student online survey (n = 14, 20%)
- IGNITE student/former student interviews by phone (n = 3)
- **Individual telephone interviews with partners** (n = 7)
- Online survey of new part-time faculty teaching IGNITE courses (n = 2, 50%)

Limitations to interpreting findings. The numbers of students interviewed over the grant period is low, despite extensive efforts by FERA and IGNITE staff to reach students and obtain their consent to be interviewed.

> *"I wanted to share a general update with you that developed from our last data interpretation meeting. I found the meeting to be extremely valuable; presenting a variety of opportunities that we can pursue in the CIS department…. Since that meeting, I have scheduled a strategy session with the CIS department so we can prioritize some of the ideas that were presented… As we begin to wrap up the grant, we (on the academic side) will continue to look for ways to operationalize the lessons learned." (excerpt from WCC Administrator email to IGNITE team)*

Data Interpretation, Analysis and Recommendation Development

FERA engaged stakeholders in data interpretation workshops conducted in Years II, III, and IV. During the first two workshops IGNITE team members reviewed evaluation data and identified key findings and implications and developed recommendations for program improvement. Workshop discussions helped inform decisions about what to continue, change, and/or discontinue related to student support services, blended learning format development, engagement with partners, overall curriculum development, and administrative issues. In the Year IV data interpretation workshop, team members reviewed data related to a) "lessons learned" from IGNITE, and b) recommendations for sustaining valuable grant features and moving forward.

IGNITE OVERVIEW

> *Washtenaw Community College's IGNITE program was designed to help build the college's capacity to offer IT courses in a blended learning format and to train or re-train people for jobs in the IT sector.*

The following overview of IGNITE offers 1) general program background, and 2) a brief description of key program goals and components. Details of program implementation, outcomes, and impacts are discussed after this section.

Background

Washtenaw Community College is located in the eight-county region of southeastern Michigan, less than an hour away from Detroit. Washtenaw County includes the University of Michigan in Ann Arbor, which has one of the top engineering schools in the country. It is also home to low-income rural and urban communities. Through IGNITE, WCC now offers ways for students of all ages to obtain the needed knowledge, skills, and credentials to access information technology jobs in the area.

KEY FACTS

Washtenaw Community College is **one** of **28 community colleges** in Michigan.
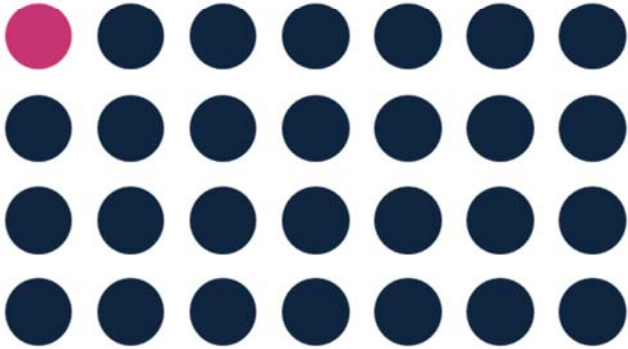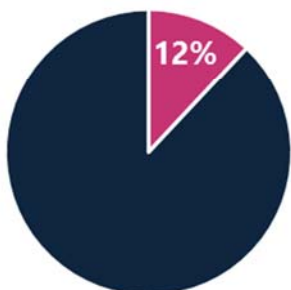
65% of students live in **Washtenaw County.**
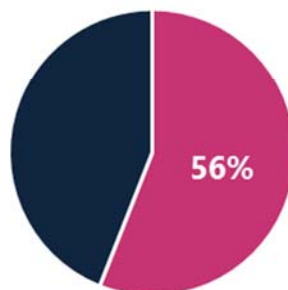The majority of other students reside in adjoining counties.

65%

25% of students took at least one distance learning class.

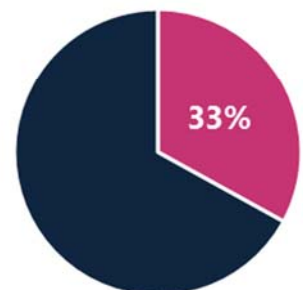**10%** of students took only distance learning courses.

12% of students **receive Pell grants.**

12%

56% of students are **below age 25.**

56%

33% of students are a **minority race**, mainly African American.

33%

Capacity Building

Washtenaw Community College's IGNITE program was designed to build the College's institutional capacity to provide innovative curriculum, develop accessible career pathways in IT, and strengthen its academic and career readiness services. Specifically, the program was designed to strengthen the Distance Learning Division, strengthen faculty competency in developing blended learning courses, create pathways from non-credit to credit programming, and strengthen external partnerships. The program offers professional development and enhances the college's technology resources and student support services. Curriculum was developed in a blended learning format to make IT courses more accessible to learners in scheduling and costs.

All of the key components of the grant were intended to provide opportunities to innovate, work in new ways, pilot new ideas/activities, and learn from these efforts. As described in the preceding section, the IGNITE evaluation was developmental in nature, supporting continuous improvement. **As described in the preceding section, the IGNITE evaluation was developmental in nature, with WCC and FERA collaborating throughout the continuous improvement process.** Capacity building is interwoven into every aspect of IGNITE.

"From IGNITE it's been **liberating**, there's a feeling that we can **dare to dream** about creating new curriculum in creative collaboration."

-WCC Staff/Admin

Career Pathways and Blended Learning Curriculum Development

In developing the IGNITE grant proposal, WCC consulted with local employers and industry experts to identify job opportunities and trends in the local Information Technology (IT) sector. The consultations led the college to identify coursework for three career pathways (academic programs):

1. Java Programming Certificate Track,

2. Linux/Unix Systems Certificate Track, and

3. Microsoft Technology Associate Networking Infrastructure Program (MTA)

While Java and Linux/Unix programs had been offered in the past, these programs were selected for IGNITE to be made more accessible through a blended learning format. The blended learning format combines online and classroom instruction to provide adult learners with increased flexibility and accessibility. The courses were designed to include videos, interactive simulation activities and games, and tools for faculty to assess student progress and get feedback.

Effort was made to shorten courses to an accelerated schedule. Some Java and Linux/Unix were accelerated from 15 to 10 to 12 weeks. Sections of two IGNITE courses are still offered on an accelerated basis but other accelerations were discontinued due to concerns about student success with an abbreviated schedule. MTA is offered in 7.5 weeks. The program initially envisioned courses being offered with a variety of class times, weekend options, and year-round scheduling. WCC reviewed best schedule options based on faculty availability and student feedback; courses were offered year-round, but not on weekends.

Course development was supported by IGNITE-funded professional development. Quality Matters training focused on best practices for online and blended learning. Ellucian provided interactive learning tools training and train-the-trainer sessions. Additionally, faculty participated in *informal* coaching/training sessions between the Distance Learning department and CIS faculty.

Multiple Entry Points to IGNITE

1. Assessment and non-credit entry. To support student readiness for entry into an IT academic program, IGNITE purchased WorkKeys and KeyTrain – assessment and remediation tools designed to help prepare students for entry-level CIS courses. IGNITE was designed to offer various non-credit offerings: 1) assessment of basic skills, 2) programs to strengthen basic academic and "soft skills," and 3) classes to help individuals learn about IT career pathways and discern their own IT-related interests and aptitudes.

2. Enroll in Introduction to Computer Programming, an academic course teaching the basic elements of programming.

3. Participate in Shifting Code, a programming course offered through Ann Arbor SPARK.

4. Enroll directly in college credit and degree programs with pathways in the areas of Java, Linux/Unix, and MTA.

Student Support Services

WCC used the IGNITE grant as an opportunity to learn how to support student retention and completion by offering needed supports and addressing barriers to success. New student support services included: 1) a new one-stop case-management approach to academic advising and counseling; 2) one-on-one tutoring services; 3) group study; 4) career services in the form of advisement, job search support, and internship coordination.

Transferability and Articulation

WCC and Eastern Michigan University developed and expanded transferability options and articulation agreements between the two institutions.

External Partnerships

WCC developed official IGNITE partnerships with three types of organizations: 1) employer partners (n = 5); 2) Michigan Works! agencies (n = 2); 3) workforce development organizations (n = 2). These strategic alignments were an important part of WCC's capacity building efforts (See Appendix A for more information on external partnerships). Prior to IGNITE, WCC already had partnerships/relationships with both Michigan Works! agencies, the workforce development organizations, and some area employers. The IGNITE-focused partnership activity was used to design and strengthen the core program, recruit participants, and facilitate placements for participants. In addition to these official partnerships, IGNITE developed more informal relationships with other organizations and employers.

As IGNITE was first being planned, the Michigan Works! agencies and the regional workforce development organizations, Workforce Intelligence Network (WIN) and Ann Arbor SPARK, provided research to inform choices about the curriculum. The two Michigan Works! agencies (Michigan Works! Washtenaw County and Michigan Works! Livingston County) were individual agencies of the Michigan Works! System. Michigan Works! offers workforce development services for employers and job seekers (in 2016 these two agencies merged with three other county agencies to form Michigan Works! Southeast). WIN is a collaborative venture in Southeastern Michigan between nine community colleges, seven workforce boards and economic and community development partners. WIN provides data about regional labor market trends, focuses on employer engagement, and informs policy. WIN provided research reports occasionally throughout the grant period. Ann Arbor SPARK supports job creation and the growth of companies in the region.

IMPLEMENTATION FEEDBACK

Highlights of the implementation evaluation are presented here. This first section describes key IGNITE activities and major program implementation issues and decisions on a yearly basis. This is followed by a discussion of key strengths and challenges of the implementation.

Additional implementation findings were presented earlier in the Years II and III interim evaluation reports. These data were used by stakeholders to develop recommendations for strengthening and sustaining key aspects of IGNITE. (See Appendix B for additional detail about activities by year.)

Year I

- Built the IGNITE administrative structure; hired most of the grant personnel; selected third-party evaluator.
- Began monthly project review meetings with IGNITE team; began regular meetings with partners (first face-to-face, then via audio-conference for convenience).
- Mapped out course rollout schedule and began developing related systems and processes.
- Quality Matters training partially completed; Ellucian simulation training contract established.
- Pathway course development began. Several courses offered, but some canceled due to low enrollments. Completed development of IT Career Readiness Certificate courses.
- Held preliminary discussions with selected partners re: curriculum offerings and student recruitment.
- Identified key program evaluation interests.

Some IGNITE activity this year took longer than expected due to waiting for US Department of Labor approval of budget modifications and equipment approvals. A decision was made to use the Certiport MTA curriculum as the foundation for the MTA one-course track, rather than create a new curriculum.

Year II

- Completed development of the non-credit blended IT Career Readiness Certificate course (articulation agreement established) and the Math for Programmers course.

- Ongoing development of other courses and related professional development activity. Increased use of interactive software.

- IT Career Readiness Certificate course taught once.

- Updated transferability/articulation agreements between EMU and WCC regarding Java and Linux/Unix.

- Enhanced IGNITE student advisement position.

- Adjusted curriculum plans (discussed later).

- Built and enhanced partner relationships through ongoing meetings and partner support with activities.

- Made adjustments regarding 1) defining IGNITE participants; and 2) evaluation plan.

- Formative evaluation activity conducted; the IGNITE team and FERA reviewed the findings and identified implications and recommendations.

IGNITE made three key curriculum decisions in Year II: 1) some courses were designed with an accelerated schedule, from 15 weeks to 10 or 12 weeks; 2) "Math for Programmers" course became an optional online remedial resource due to low enrollments and difficulties in coordination with another academic division; and 3) the IT Career Readiness Certificate program was adjusted to include the core content of all classes in *one* course to minimize tuition costs since there would be no TAA tuition support.

Creating and embedding the online, interactive course portions took longer than expected partly due to delays in equipment purchase approvals. Faculty varied in their interest in integrating "gaming" or other interactivity into courses and in their time available to develop the courses. To support timely roll-out of courses, the development process evolved to having part-time instructors do most of the development, with support from Distance Learning staff and input from the lead instructor/content expert.

In Year II, significant structural and personnel changes occurred in the college, affecting administrative positions in WCC's Business and Computer Technology division, the Distance Learning division, and the Marketing department. These changes and a growing tension between college faculty and administration were experienced by many as "college climate'" influences and challenges to the program's implementation. Since then, IGNITE team members generally have noted their sense that the two new division administrators have greatly benefitted IGNITE and the college.

IGNITE staff faced ongoing student recruitment challenges; they developed a better understanding of the changing economy's influence on recruitment and of Michigan Works! limitations on referring TAA-funded clients to IGNITE. The WCC non-credit pathway to recruit students (e.g., assessments, IT Career Readiness) proved to not be an effective recruitment strategy. Due to cutbacks in federal funding coming through MEDC, SPARK was unable to continue offering courses through SPARK's "Shifting Code" program. Because of these challenges, IGNITE staff ended up devoting much more time and resources towards recruitment than anticipated.

Year III

- Extensive student recruitment for all credit curriculum tracks, with focus on MTA.
- Discontinued non-credit IT Career Readiness course.
- Formal IGNITE professional development completed.
- New focus on teamwork in course development, including informal coaching by distance learning staff.
- Institutionalization of two course development positions and a part-time tutoring position - moved from IGNITE to WCC funding.
- Enhanced IGNITE placement and internship coordinator position and increased relationship-building with area companies and organizations.
- Continued Java and Linux/UNIX course development and teaching; increased MTA focus.
- Began case-management approach to student advisement.

IGNITE hired a new IGNITE placement and internship coordinator with significant corporate internship-related experience. She immediately began strengthening IGNITE partner connections and building new connections between CIS and area employers. A reorganization of the Distance Learning division led to a) strong use of pedagogical principles/best practices in course development, and b) efficient use of cross-trained staff to ensure timely course development.

Java courses were developed as expected; enrollments were sufficient to run upper-level courses. However, Linux/UNIX courses development activity and enrollments were slower than expected and the team was uncertain why enrollments were low. The IGNITE team noted a high drop-out rate and made plans to address that with greater student support. Even though WCC would have covered the tuition cost, the IT Career Readiness course was cancelled due to lack of expected tuition funding from Michigan Works! and related lack of enrollment.

After its review of Year III evaluation findings, the IGNITE team generated ideas for strengthening partner-related activity, the curriculum, and extra-curricular offerings.

Year IV

♦ Completed curriculum development and third-party curriculum review; curriculum uploaded to Creative Commons.

♦ Student support services focus on program completion and placement.

♦ Java course enrollments increased.

♦ WCC institutionalized many IGNITE features and services, especially related to staffing and distance learning processes and policies for course development.

♦ Conducted extensive outreach to employers; employers and other partners were more involved.

♦ IGNITE placement and internship coordinator filled the newly-created full-time WCC coordinator of experiential learning.

♦ Contract agreement regarding faculty participation in developing online/blended learning courses was established.

♦ IGNITE program manager retired in March 2016.

♦ Compiled outcome data.

♦ Team reflected together on "moving forward" without IGNITE resources.

♦ Sharing of IGNITE accomplishments and lessons learned with others external to WCC.

Much of Year IV IGNITE activity through March 31, 2016 was built upon the accomplishments and "lessons learned" from the first three grant years. CIS gained more experience with having new, part-time faculty teach the blended learning courses, leading to reflection about how to best prepare and mentor such faculty.

Other important types of activities took place throughout the grant period, such as assessments of basic workplace skills by the non-credit division, sharing of the IGNITE experiences in conference presentations, the purchase/updating, maintenance and storage of needed equipment and resources, recording-keeping, and financial administrative functions.

Below are overarching implementation strengths and challenges that emerged over the four years of IGNITE. WCC is building on the strengths and more detail can be found in the report section "Outcomes and Impacts." Challenges are also highlighted and explored in greater detail in the section "Lessons Learned."

Implementation Strengths

- Team approach to developing blended courses by working across silos and departments.
- Restructuring of the Distance Learning (DL) department to support the team approach and include blended learning.
- New technological infrastructure to support development of blended learning/distance learning courses college-wide (beyond IGNITE).
- Development of a college-wide model for creating blended learning courses.
- Use of a developmental/continuous learning approach to program implementation. Examples can be found throughout the report.
- Institutionalization of several IGNITE roles into WCC staff positions to be sustained by the general fund.
- Outreach to employers, especially with identification of IT needs and skills, and connections for IGNITE student internships and employment.

Implementation Challenges

- Lack of direct faculty involvement in grant development.
- Student recruitment.
- Staffing changes at WCC during the grant period and delays in hiring key IGNITE staff.
- **Departments at WCC had previously worked in "silos" and were not use to cross-departmental collaboration.**
- Ambitious timeline for purchasing and implementing technology, modifying curriculum, and developing new courses.
- Changing definitions of participants and placements provided by the U.S. Department of Labor.
- Lack of clear partner roles and expectations.

OUTCOMES AND IMPACTS

The Computer Information Services (CIS) department took the lead on the IGNITE grant. The IGNITE Team, however, included a much broader group of stakeholders including: administrators (the Vice President of Economic and Community Development, Dean of Business & Computer Technologies, IGNITE Program Manager, Senior Director of E-Learning), and selected faculty and staff from the Distance Learning department, CIS, Student Services (Student Records, IGNITE Advisor, and IGNITE Placement and Internship Coordinator), and Economic and Community Development division.

This section first reviews outcomes and impacts on the CIS department where the three career pathways are offered. Next, the outcomes for IGNITE students pursuing those pathways are presented next. Finally, institution-wide impacts are explored.

Computer Information Services (CIS) Department

> *"IGNITE gave us infrastructure and the incentive to do things online, in a non-traditional format. IGNITE gave us the impetus."*
> *(WCC faculty)*

The IGNITE grant enhanced the capacity of the CIS department to increase course offerings and reach more students. An overview of CIS outcomes in four areas are presented: 1) new mindsets; 2) IT Career Pathways and blended learning courses; 3) student support services; 4) strengthened external partnerships. The table on the next page displays key ways that CIS has been impacted by IGNITE. CIS relationships with external partners are discussed more fully in later report sections and in Appendix A.

Overview of CIS-Level Changes

New Mindsets	◆ New team approach and increased collaboration across silos ◆ Increased openness of CIS to use innovative practices and the blended learning format
IT Career Pathways and Blended Learning Courses	◆ Creation of three blended learning IT pathways with articulation agreements ◆ Expanded course formats and offerings ◆ Integration of new technologies ◆ New "Math for Programmers" resource module ◆ Increased enrollment in JAVA and Linux/Unix
Student Support Services	◆ Dedicated IGNITE Student Advisor and strengthened CIS advisement ◆ Dedicated IGNITE Internship and Placement support ◆ Enhanced student support through one-on-one tutoring and group study sessions ◆ Institutionalization of NetLabs staff
Strengthened External Partnerships	◆ Strategic alignment with partners increased alignment of CIS curriculum with needed IT knowledge and skills ◆ Growth in personnel understanding of value of employer input

New Mindsets
A new team approach was used that increased collaboration across department silos. In implementing IGNITE, CIS worked across academic departments, with Economic and Community Development, Career Services and Distance Learning. It took time to learn about other areas, strengthen communication, and build trusting relationships. CIS faculty worked directly with Distance Learning instructional designers to create/convert courses into a blended learning format.

This team approach was new and was beneficial to CIS. As one administrator explained, "With time and some changes, the team is more cohesive. Expectations are clear from the practice. We feel more comfortable to call out and try new ideas, to bounce ideas off each other and make adjustments to plans. There was a change in people as trust and familiarity grew." They expect to continue this new team approach. As one interviewee commented, maintaining a close relationship between CIS and Career Services will also be important in "developing employer relationships and getting feedback on skills/trends" (WCC Staff). Increased openness of CIS to use innovative practices and the blended learning format. Developing courses in a blended learning format increased faculty interest in using new learning formats and technology. This new mindset has spread to other parts of the college (see section on impacts on WCC). A total of four full-time and two part-time faculty members were involved in developing the IGNITE blended learning courses.

IT Career Pathways and Blended Learning Courses

Creation of three career pathways with new articulation agreements. As already described, CIS, with input from employers, designed three IT pathways in a blended learning format – Java, Linux/Unix and Microsoft Technology Associate (MTA). Prior to IGNITE, CIS had already-established Java and Linux/Unix tracks in face-to-face and online formats. The seven-and-a-half-week MTA course was purchased with IGNITE funds. This course prepares students for the MTA certification exam, which results in an MTA Certification. To earn either the JAVA or Linux/UNIX academic certificate, students are required to complete four courses totaling 16 credit hours. The IGNITE coursework in each of these programs was designed to align with industry certifications and employer needs.

Successfully completed coursework can contribute to a student's associate's degree and/or allow the transfer of credits to a four-year institution. WCC updated articulation agreements with Eastern Michigan University for each of the three tracks.

Expanded course formats and offerings. CIS faculty collaborated with Distance Learning staff to develop IGNITE blended learning courses (See section "Institutional-level Changes"). Previously the CIS department had *one* course in a blended learning format. A total of nine courses were converted into a blended learning format, two newly developed for IGNITE and one redeveloped blended learning CIS course. This activity represents an important area of growth for CIS. Offering CIS courses in *three* formats (face-to-face, distance learning, and blended learning) has led to increased accessibility and the opportunity to meet students' diverse learning needs. By delivering them in multiple formats (blended, on-line and classroom-based), making the courses accessible to a more diverse group of students from different locations. Because of increased enrollment in JAVA and courses, CIS has been able to offer advanced courses more regularly.

The integration of new technologies (e.g. simulation, gaming, collaborative tools, short video segments) enhanced the blended learning courses. Faculty learned of a variety of ways to meet different student learning styles in their combinations of in-class and at-home teaching-learning activities.

New resources were developed for CIS students needing basic math skills. The CIS department developed "Math for Programmers" (contextualized learning for math) as a blended learning module providing remedial math support. Although it was initially offered as an entry-level Math departmental course, it became instead a resource module embedded in an entry-level CIS course for use as needed by students.

Between academic years 2011-2012 (pre-IGNITE) and 2015-16, the CIS Java program enrollments in all course formats increased 196%.   The respective Linux/Unix enrollments decreased by 21%. (The decrease came in the last two years of IGNITE.) CIS staff and faculty are considering factors that likely influenced the Linux/Unix enrollment drop, such as:

- Over the life of the grant there has been a dramatic, well-publicized increase in the need for programmers in business and industry over the IGNITE period, likely driving students from Linux to Java;
- WCC doesn't publicize that in its Linux program it uses a free version of Linux (CentOS) which is closely based upon RedHat, the predominant version of Linux in enterprise data centers

- A CIS Windows scripting course introduced during the grant period may be drawing students away from enrollment in the Linux scripting course,
- Students find important course content in the early courses rigorous and challenging.
- The Linux/Unix curriculum track increased from 12 credit hours to 16 credit hours over the life of the grant.

CIS realizes it may need to consider marketing its use of CentOS and reconsider the introduction and sequencing of the course content in the early Linux courses.

Student Support Services

IGNITE addressed the issue of student retention through the development of comprehensive layers of student support services from registration all the way through internship/job placement.

Prior to IGNITE, all CIS students received guidance from a general CIS academic advisor. However, a multi-level coordinated system of support did not exist. Two key support positions were developed through IGNITE – a dedicated IGNITE advisor and IGNITE placement and internship coordinator. IGNITE provided additional support through individualized tutoring, group study and a NetLabs help desk technician. How these services were expanded is described below, with sustainability information highlighted in italics. These topics will be discussed further in the section on WCC-wide impacts.

- Dedicated IGNITE student advisor and strengthened CIS advisement. This advisor 1) assisted with student recruitment; 2) provided a case management model of advising students on both academic and personal issues; 3) maintained close contact with all IGNITE areas (e.g. CIS faculty, IGNITE placement and internship coordinator); 4) focused on student retention; and 5) supervised IGNITE tutors. *CIS is sustaining aspects of this dedicated advisory role by enhancing the role of its current CIS advisor.*

- Dedicated IGNITE internship and placement support. The IGNITE placement and internship coordinator provided closer connections between IT and Career Services and played a critical role in developing relationships with external partners. This coordinator 1) developed and strengthened relationships with local employers; 2) worked with students in internship/job searches; 3) facilitated or collaborated in recruitment events; and 4) collaborated with workforce development agencies. This position expanded into a full-time WCC experiential learning coordinator serving the entire WCC community.
- Enhanced student support through CIS group study and one-on-one tutorial services. IGNITE part-time tutors supported Java, Linux and MTA students individually and through group learning sessions outside the classroom. These extra CIS support sessions were enhanced through the grant and group study sessions are being maintained by WCC. CIS is also considering implementing a structured learning assistance student support program.
- Institutionalization of NetLabs support staff. Initially, IGNITE funded a part-time NetLabs help desk technician to support students, faculty and staff. To sustain this support, this position has been upgraded to a full-time, WCC-funded NetLabs administrator position.

Strengthened External Partnerships

> *"Connecting through IGNITE deepened our relationship with WCC. We have deeper and wider contacts at WCC. We have greater awareness of what WCC students can do."*
> *(External partner)*

Strategic alignment with new and pre-existing partners increased the alignment of CIS curriculum with knowledge and skills needed for IT employment. CIS partnerships resulted in stronger connections and better coordination with local employers, workforce development agencies, and Michigan Works! In the process, CIS learned more about the knowledge, skills, competencies, credentials, and certifications needed in the workplace.

IGNITE's partnership component impacted CIS most significantly through its growth in personnel understanding of the value of *employer* input. CIS faculty and staff better understand *how* employers can offer input. Faculty have integrated employer ideas to include more collaborative and project management activities in courses and extra-curricular offerings and arranged for employer engagement with students in and out of classes. Faculty now have more opportunity to connect with employers through participation in company tours and meetings held on campus.

Employers participated in job fairs and visited classes to speak with students about qualifications needed to obtain jobs. WCC/CIS personnel and the workforce development partners 1) held meetings; 2) collaborated on events that included faculty and/or students, companies, and organizations; and 3) coordinated joint events. These events and connections helped link WCC, its students, and key CIS faculty and staff with local employers. (See section "Institutional-Level Changes" for additional discussion of the value of stronger relationships with external partners.)

Other CIS-Level Changes

Mentoring area high school teachers. CIS is increasingly interested in building informal relationships with area high schools to increase a "pipeline" of students. It has strengthened relationships with two local high schools; one local school system implemented a WCC Java blended learning course.

Staffing support. An academic associate in the Office of Business and Computer Technology is now responsible for many CIS-level operations to support the division's online/blended learning course offerings.

IGNITE Participants

> *"This program is very valuable to students to get certified and allow them to be placed into IT positions. I hope WCC continues to pursue this grant and others like it in the future. This is a tremendous benefit to students who are not taking enough advantage of the program." (IGNITE Student)*

Although a key focus of IGNITE was on building WCC's capacity to develop and offer IT courses in a blended learning format, there were also anticipated student outcomes.

This section addresses IGNITE impacts on participants including: 1) participant-related program outcomes; 2) supports and barriers to student success; 3) benefits of IGNITE.

The official participant outcome measures are shown in the table on the following page and are discussed briefly in the next subsection. Use of these outcome metrics to assess IGNITE's impact on students is very limited because 1) some IGNITE participants did not complete their academic program for various reasons (e.g. found a job, did not need the entire set of courses in the curriculum track, financial constraints, moving out of area); 2) the criteria regarding post-IGNITE employment activity was limited to data from the semester period following completion of the program; 3) challenges in tracking participant internship/placement activity. Thus, this section focuses primarily on other aspects of program impacts on participants.

Outcomes

Credit-Bearing Programming. IGNITE data for the outcome measures were compiled by WCC's Office of the Registrar/Student Records. Employment outcomes were compiled by Social Policy Research Associates - a company with special expertise obtaining and analyzing state-level employment data. (See Appendix C for their detailed report on three of the nine Department of Labor outcome indicators). The data were provided to FERA by the IGNITE program manager. WCC received a six-month no cost extension for their grant and will be submitting their final report in November 2016. Since the evaluation report deadline was unable to be extended, and this report is due September 30, 2016, FERA is reporting estimated participant outcome numbers. WCC is in the process of revising student outcome data over the past 4 years based on the DOL's criteria changes for counting grant participants.

While it is important to acknowledge the Department of Labor's (DOL) need for standardized measures across all of their grantees, the official outcome data does not tell the full story of IGNITE's impact on students. For example, at least one student *not* considered a Department of Labor-defined "official" completer was offered and took an IT job before completing coursework. WCC considers such a student's endeavors as a successful outcome but this is not captured in the reporting metrics set by the DOL.

Ignite Participant Outcomes Measures

Total unique participants served	297
Total number of participants who have completed a TAACCCT-funded program	70
Total number of participants still retained in their program of study or another TAACCCT-funded program	26
Total number of participants completing credit hours	118
Total number of participants earning credentials	178
Total Number participants enrolled in Further Education After Grant-funded Program of Study Completion	48
Total number of participants employed after grant-funded program of study completion	0*
Total number of participants retained in employment after program of study completion	0**
Total number of those participants employed at enrollment (for purposes of this reporting, "incumbent workers") who receive a wage increase post-enrollment.	65***

* Aggregate student data was too small to meet DOL minimum cell size reporting requirements (more than three) and to maintain student-confidentiality thus 0 or NA is reported in this data element
** Same as above on minimal cell size
*** Employment data for the last three outcomes came from SPRA (see Appendix C).
Notes: Total number of participants still retained in their program of study or other TAACCCT-funded program: This is as of 03.31.2016. Total number pursuing further education after program of study completion: completed program of study and enrolled in subsequent semester. This report includes credit and non-credit data. Non-credit student data is only reported in Total number of participants, Total number of completers, and Total number of participants earning credentials.

Non-credit Programming. Of the total number of unique participants served, IGNITE served 147 participants through IGNITE's non-credit programming. A total of 125 students took the WorkKeys assessment, 17 individuals completed Ann Arbor SPARK's Shifting Code course. Five students completed the IT Career Readiness course. Three of the five students went on to take for credit courses.

Internship placements. Although some IGNITE students obtained internships and/or employment, due to the DOL definitions they are not officially included as "employed" or "retained in employment" due to completer or exit status. For example, individuals who obtain internships or jobs before officially completing their degree or outside the six months following program completion are not officially included as employed or retained in employment.

Supports and Barriers to Participant Success
The IGNITE team identified supports and barriers to student success in general and with the blended learning format in specific. This information was used to help improve programming and to provide "lessons learned" for others creating similar programs. Data regarding these topics was solicited from IGNITE team members and participants.

As noted in other parts of this report, the IGNITE program was designed to offer students with barriers some comprehensive support services. Supports were developed to address barriers to student success. These include:

♦ Supports for overcoming personal challenges. Many IGNITE students faced personal challenges that could affect their academic success such as childcare issues and other family responsibilities, job commitments, and transportation issues. Through a case management approach, the IGNITE student advisor helped students address such challenges/barriers. For example, she made referrals to WCC counseling and community support services, helped with financial aid forms, and advised on course scheduling.

- Academic support. IGNITE offered CIS group study and one-on-one tutoring sessions for students to get assistance outside the classroom. Most faculty interviewees made a specific mention that they viewed the IGNITE tutoring and group study offerings as important. Of the respondents to the 2016 student survey, 50% of students (n = 7/14) reported using CIS group study and 29% (n = 4/14) used one-on-one tutoring services. For those students who used group study and/or tutoring it was helpful. All students who self-reported their use of those services rated their level satisfaction with the service(s) as "Extremely Satisfied" or "Quite Satisfied." One student explained, "The support I have received has been extremely helpful in explaining programming concepts and application of these concepts."
- Several staff and faculty members noted their disappointment, though, that more students did not take advantage of these services, despite the services being well publicized. The department is making an effort to understand how to increase student utilization of these services.
- Since some students do not have the pre-requisite math skills to successfully complete programming classes, CIS developed the *Math for Programmers* non-credit course, which later was used instead as a resource module embedded in CPS 120 for those needing remedial math work.
- Preparation for academic success. Michigan Works! usually referred the individuals who went to the WCC Harriet Street Center for assessments. These individuals are often unemployed, seeking job training and new skills with the hopes of finding work. As discussed earlier, WorkKeys assessments and the NCRC certification were possible pathways to encourage unemployed individuals to consider a career in IT. Unfortunately, this proved to be an ineffective recruitment strategy for IGNITE. As the economy improved in Michigan, referrals from Michigan Works! were more likely to be chronically unemployed individuals with multiple, long-standing barriers to entry into the workforce.

♦ Resources to cover the cost of certification exams. Certification exams cost $100+ to register. Some students cannot pay this amount, making this fee a barrier to obtaining industry-recognized credentials. In 2015-16, WCC paid for the MTA certification exam to encourage IGNITE students to complete this credential as part of their course. One unemployed person interviewed stated "I got a voucher for the certification exam. It was very helpful."

♦ Most of the student reflections on the *supports* for learning in IGNITE were similar to those of the faculty. Most commonly mentioned supports were the ability to access course materials anytime 24/7 (83%), face-to-face instructor support (56%), online opportunities for self-check (39%), and online activities and resources (33%).

♦ *Students* were also asked to reflect on the *difficulties* they experienced with the blended learning format (2014). Nearly 30% of student respondents (n = 5/17) reported no difficulties. For those who faced difficulties, the most frequently identified challenges related to the self-paced nature of the course, not enough interaction with faculty and fellow students, and technical issues with online learning. Nearly 25% of respondents agreed that personal or work-related factors were obstacles in their coursework.

CIS faculty reflected on their experiences with influences on student success, including supportive factors and barriers.

Supportive Factors

♦ Students with a history of academic success tend to adapt well to the format.

♦ Faculty interactions are key to keeping students engaged, particularly in the face-to-face portion of the courses.

♦ Labs and hands-on activities to engage students and help them apply what they are learning are valuable. (One student's comment reinforces this faculty observation: "*I learn best by hands-on work: labs, activities right on the computer to practice every topic on the syllabus could be applied on the computer and relevant to what you'll find on the job.*"

♦ Having course materials available 24/7 helps students access information whenever they need it.

Barriers

♦ The self-paced nature of some blended learning courses and flexible timelines make it difficult for some students to keep on top of their work.

♦ Less interaction with peers and faculty can be difficult for some students.

Benefits to Students

Students reflected on the benefits of participating in IGNITE. Students who responded to the 2016 survey (N = 14) noted that IGNITE:

Helped me better understand my own level of interest in a career in information technology	57% (8)
Gave me needed computer skills	50% (7)
Helped me better understand career opportunities in information technology	50% (7)
Allows me to continue my education while working	21% (3)
Allows me to continue my education while balancing family care needs	21% (3)
Gave me needed teamwork skills	14% (2)
Offered me a sense of "success"	7% (1)

In IGNITE team discussions, student success and associated factors have been of strong interest. CIS is now able to move its focus from learning how to develop blended learning courses to trying to more deeply understand student success factors.

Institutional-Level Changes

IGNITE impacted Washtenaw Community College at the institutional level in multiple ways. Some of these impacts reflect a cultural shift and others are more specific changes throughout the college. Impacts reflecting a general cultural shift include:

Increased collaboration across silos. IGNITE activities strengthened communication, relationship-building, and team work across the college (e.g. interactions across areas such as the CIS department, Workforce Development/Career Services, Advising and Counseling, Information Technology Services, Distance Learning, Marketing, and Institutional Research). Since IGNITE team members were embedded in various WCC departments their many discussions together built a stronger cross-college base of institutional knowledge, allowed ideas to propagate more easily, and fostered a more collaborative work spirit. For example, one administrator felt the collaborative work in creating the course development model marked "a shift from a top-down approach to having faculty involvement in identifying goals and practices."

A strong, entrenched cultural commitment to offering students more online/mixed mode courses. There is an infrastructure in place. The college has learned that it can create additional layers of student support and that technical issues are surmountable.

A more positive approach to innovation. IGNITE has modeled for the college how people can think creatively when they feel comfortable sharing ideas. With this large initiative, the college learned it can do business differently to increase capacity, look outward, go for more grants, and develop more linkages in the community.

Positive public relations. IGNITE highlights that WCC can offer courses in cutting edge formats and has partnerships with regional businesses, educational institutions, and economic development organizations. These accomplishments have been recognized at the state and national levels: WCC was nominated to speak about its new, innovative online course development model and its sustainability at a) the 2016 Governor's Economic and Education Summit, and b) at the 2015 National Conference on Workforce Education. Also, WCC was named as one of the top 50 "Best Value Online Community Colleges" by *Value Colleges.*

Institutional Capacity

The IGNITE program greatly helped WCC expand its institutional capacity to increase accessibility to students and generally maintain its enrollments at a time when enrollments at Michigan community colleges have been declining. For instance, in the period between Winter 2015 and Winter 2016, overall Michigan community college enrollment decreased 5.4% but WCC enrollment decreased only .89% (Washtenaw Community College Office of Recruitment and Student Enrollment). This accomplishment was largely due to the expanded distance learning enrollments. Blended learning and online courses are now an area of tremendous growth for WCC.

What are the institutional, systems-level changes that supported increased distance learning enrollment? An overview of institutional-level changes in four areas are presented next: 1) blended learning course development capacity; 2) student support services; 3) stronger external partnerships; and 4) non-credit entry point. The reader can learn additional details about each outcome in the following sections and from Appendix D.

Blended Learning Course Development Capacity

Through its experience with IGNITE, WCC has built its infrastructure and capacity to scale up curriculum offerings in online/blended learning formats. By building this capacity, the college offers students more flexibility in how they can develop workplace skills. This is important because WCC, like most community colleges, serves students who may be balancing work and family responsibilities in addition to their studies. WCC also now uses open source resources in multiple WCC academic and non-credit areas.

WCC's Distance Learning department reports that in the first year of use of the new online course development model (academic year 2015-16) there was a 73% decrease in the costs of production of blended learning/online courses and there was a 25% increase in online/blended learning course enrollment. The number of new online courses produced jumped from eight in 2014 to a projected 42 in 2016. Growth at this level aligns with the college's overall strategic direction to increase the institution's agility, innovation, and responsiveness. The entire college benefits from the increased capacity to create online courses more quickly.

College-level changes supporting blended learning that have been institutionalized and will now be sustained include:

College-Level Changes Support Blended Learning

- A new model for developing blended learning/online courses;
- New policies and procedures;
- Increased number of distance learning staff dedicated to blended learning;
- Professional development opportunities to increase faculty and staff knowledge about blended learning and sustained now through informal coaching;
- New hardware and software; an institutional process to regularly review upgrade and maintenance needs; and resource allocation for these needs.

Additional detail for each of the outcomes is presented next.

Creation of a model for developing WCC blended learning/online courses.
Using lessons learned from its IGNITE experience, WCC has developed a course development model for creating or updating any blended learning or online course. The model addresses many project management and pedagogical considerations, including roles of faculty and instructional designers, use of a master core site for each course, and integration of multimedia, gamification, open source resources, remedial content, and assessment tools, and various policies and procedures.   To reduce costs in course development, Distance Learning is 1) promoting the use of open educational resources when applicable, and 2) negotiating lower costs for commercial course software.

An online learning advisory team has been established to help oversee the development and updating of courses using this model. With the model, and with the reorganization of the Distance Learning staff, the appropriate training, and the needed technical tools, WCC has built its capacity to scale up curriculum offerings in online/blended learning formats in academic divisions throughout the college.

New policies and procedures. Based on experience with IGNITE, WCC has developed specific training procedures and policies for faculty involved with blended learning and online courses. Also, Distance Learning staff members who develop blended learning/online courses are now cross-trained, improving curriculum development efficiency and timeliness.

WCC and the Washtenaw Community College Education Association developed a contractual agreement regarding faculty involvement with the development and teaching of courses in a blended learning/online format. The agreement addresses topics such as intellectual property issues, role expectations, compensation, and oversight.

Enhanced WCC commitment to distance learning staffing and roles. The IGNITE grant supported seven full-time distance learning staff dedicated to the development of IGNITE blended learning courses.   Positions of six of those staff members transitioned from being IGNITE-funded positions to being WCC-funded positions. (All these changes were within the WCC Online Learning Department.) The person in the other position transitioned to become WCC Sr. Director of E-Learning.   The senior director of E-Learning now is part of the WCC hiring committee. In the middle of the grant period, the department was re-organized to better support course development aligned with best pedagogical practices and efficient project management.

New professional development opportunities resulting in increased faculty and staff knowledge. IGNITE paid for an audit of its Distance Learning course development practices. It then provided faculty and staff involved with IGNITE course development and other interested faculty and staff a Quality Matters training sessions about teaching and designing pedagogically sound blended learning courses.   Approximately 49 WCC staff and faculty attended about 90 sessions/classes. These were offered virtually over three years. Two faculty also attended related conferences. WCC held other related on-campus training for faculty and staff, including a summit, in-service events, workshops, and three Ellucian workshops.

IGNITE course developers and faculty found the training relating specifically to higher education contexts the most valuable. Faculty course leaders also received informal course development coaching from Distance Learning staff. Part-time instructors teaching IGNITE courses received guidance and support from both the lead faculty and the Distance Learning team.

Increased infrastructure (hardware and software) and institutional process in place to review, upgrade, and maintain resources. Through IGNITE, WCC strengthened its technology infrastructure with needed course development-related software and hardware, much of which can be used college-wide. Software licenses and hardware purchases were made, training took place as needed, and systems were developed for maintenance, needed updates, and storage. Many of the purchases increased WCC's capacity to use online interactivity tools in courses (e.g. game-based learning, animation, interactive simulations and collaborative work).

Student Support Services

New dedicated experiential learning coordinator. IGNITE's use of a dedicated placement and internship coordinator increased WCC's awareness of a) the value of strong partnerships, and b) the time commitment involved in building and maintaining strong relationships with partners. With that new awareness, in early 2016, WCC funded a new full-time position: WCC experiential learning coordinator. The position was filled by IGNITE's previous placement and internship coordinator. Her role is to support academic departments in building experiential learning opportunities, supporting student readiness for such opportunities, and facilitating internships. In the process of building relationships with partners, she strengthens WCC's ability to identify curriculum needs and support linkages between employers and faculty. WCC's Career Services supported IGNITE placement services with collaboration on activities such as job fairs and other events.

New dedicated student advisement and placement support staff. IGNITE participants received access to a dedicated academic advisor and a job/internship placement support advisor. Based on the experience with IGNITE's student support, WCC decentralized its advisement and services, so they are more department-focused.

24/7 tech support. Through IGNITE, staff was hired to offer an information technology help desk available 24/7. Tech support was provided to students, faculty and staff through email and phone; in 2016 a tech support chat line was added. This new level of support will be sustained after the IGNITE grant ends.

New infrastructure to support student services. With IGNITE funding, WCC also purchased and is using career services software, SARS student services scheduling software that allows online scheduling, and assessment and remedial learning software and hardware. WCC now routinely reviews its distance learning technology needs and is budgeting as needed for new tools, software updates, maintenance, and storage systems.

Stronger External Partnerships

The partnership component of IGNITE was very valuable not just for strengthening CIS department activity (discussed in other report sections), but also for strengthening other WCC relationships, overall.

Employers. Through experience with IGNITE, WCC gained a better sense of how WCC can minimize the costs to employers of engaging with the college and students. WCC also learned how the college might best develop employer partnerships related to its evolving commitment to training and education for the advanced manufacturing and advanced transportation industries.

Michigan Works! WCC gained a better understanding of Michigan Works! programming, resources, limitations, and opportunities. Southeast Michigan Works! Southeast and WCC intend to maintain a strong partnering relationship.

Workforce Development. IGNITE enhanced WCC's long-standing relationships with WIN and Ann Arbor SPARK. WCC and CIS grew their connections with IT employers throughout the region. One partner noted, the partner activity "*deepened our relationship with WCC. We have deeper and wider contacts at WCC. We have greater awareness of what WCC students can do.*"

WCC Non-credit Entry Point

Although the non-credit entry point of IGNITE did not have as strong of an impact on IGNITE student recruitment as anticipated, it did have one positive institutional impact. IGNITE supported the training of WCC's employment services manager at Michigan Works! in Powerpath assessment to identify learning difficulties currently being used at WCC.

LESSONS LEARNED

This section presents key lessons learned over the course of the IGNITE grant. Annually the external evaluators facilitated a data interpretation workshop with IGNITE stakeholders to review data, identify key findings and develop recommendations. This process led to continuous learning and improvement as WCC integrated changes into the development and implementation of IGNITE. Many of the lessons learned below have been integrated into CIS and WCC.

The lessons learned are organized into four sections: 1) grant development and administration; 2) program design; 3) student support services; 4) external relationships.

Grant Development & Administration

WCC learned a great deal about effective strategies for developing and administering grants. They have already applied some of these lessons to other grants and initiatives. They learned that:

- Engagement and buy-in of key stakeholders, including faculty, are vital. Such engagements should occur when the program vision and outcomes are created, throughout the program implementation, and when developing recommendations for program improvements.
    - Recommendations: 1) create a standing committee dedicated to the development of grant proposals; 2) once a grant is awarded establish communication processes, define roles and responsibilities, and clarify the decision-making process and "chain of command;" 3) use a developmental evaluation approach in a grant program in which stakeholders participate in ongoing data interpretation, development and use of recommendations.
- It is important to develop program-related expectations early on.
    - Recommendations: 1) develop clear expectations regarding participant responsibilities; 2) define marketing strategies; and 3) create the staffing infrastructure (e.g. have permanent WCC employees take the lead on key positions to ensure sustainability).

♦ **It is important to tell the story.** Strategic communication internally at WCC, with external partners and community-wide is important to do throughout a grant such as this one. It can build the college's brand and reputation, create internship and job opportunities for students, facilitate cross-silo collaboration, and help with student recruitment.

    o **Recommendations:** 1) build an infrastructure to strengthen communication across WCC divisions and departments; 2) facilitate a brain-storming session with key stakeholders to strategize about communicating about IGNITE, CIS programs and successes; 3) gather testimonials and success stories from students and employers; 4) identify ways to effectively use social media as a communication strategy.

♦ **Developing a plan to obtain resources for maintaining and updating the hardware and software purchased is important.** The technological infrastructure facilitated the use of interactive learning tools in the blended learning courses. To continue developing new courses, WCC will need to invest in this infrastructure.

♦ **The team approach to developing blended learning courses works well.** Faculty bring content and teaching expertise while distance learning staff provide instructional design expertise and the ability to integrate interactive learning into modules. Through IGNITE, WCC developed a college-wide model based on a team approach for creating blended learning courses. Both full-time faculty and part-time instructors teach blended learning courses.

    o **Recommendations:** 1) continually review the model and make changes as needed; 2) offer different instructional and acceleration styles that accommodate different learning styles; 3) sustain faculty professional development in Quality Matters and use of interactive technologies; 4) provide mentoring, preparation, and oversight for new course instructors in the blended learning format; 5) provide ongoing resources for developing activities and updating modules.

- IT is a constantly changing field; teaching and learning need to adapt to meet the changing needs.
  - Recommendations: 1) provide ongoing administrative support to continually update course materials; 2) develop collaborative group projects so students get "real world" teamwork experiences and mentoring; 3) continue to review the option of accelerating courses.

Program Design

- Student recruitment efforts need to be carefully coordinated with marketing and communications strategies both internally and externally in the wider community.
  - Recommendations: Provide clear communication about the opportunities and potential benefits for students as well as expectations for participation in a grant-funded program (e.g. evaluation involvement, provision of wage data, and participation in follow-up tracking after completing the program).
- It is important for students to understand the nature of blended learning courses to see if this format is a good fit.
  - Recommendations: 1) have CIS advisors work with students to be sure they understand the combination of independent study and in-class work to determine if blended learning would work for them; 2) advise students about the support services available (e.g. academic advising, group study, tutoring).
- The college can reconsider how to provide non-credit opportunities for individuals considering IT careers.
  - Recommendations: Support ongoing discussion between Workforce Development/Career Services and CIS to explore options for such opportunities.

Student Support Services

- Having a dedicated CIS advisor who is familiar with courses, faculty, IT fields, and career paths is important and should be maintained.

  o Recommendations: 1) make faculty and students aware of these services so they can access them as needed to support student success; 2) communicate about the *benefits* of advising services and how they can help students; 3) create a feedback loop so that the advisor alerts faculty when students are seeking services. In 2013, WCC decentralized advising so that each department has dedicated resources for an advisor personnel. Key to the success of these supports are funding and faculty buy-in.

- One-on-one tutoring and group study sessions provide needed out of class support, which is particularly important in blended learning/ distance learning courses.

  o Recommendations: 1) continually review optimal times to offer services to meet the needs of diverse students; these services should be offered during peak days and times; 2) inform students and faculty about tutoring and group study sessions.

- A dedicated CIS career advisor who engages with local employers and seeks internship and job opportunities can help students transition from school to work. The advisor must be familiar with both the CIS curriculum and the job market. By developing relationships with local employers, this advisor also helps employers understand the skills of WCC students and can facilitate networking.

- Students benefit from having several different "touchpoints" at the college to support them.

  o Recommendations: 1) create small communities to provide students with peer support, mentoring, and advising services; 2) sustain layers of support; 3) maintain group study and one-on-one tutoring; 4) market support services using multiple strategies to keep students informed.

- Faculty use class time in blended learning courses in different ways.
  - Recommendations: **1) consider making in-class portion mandatory to increase participation; 2) review needs for in-class time; 3) provide more "hands-on" activities; 4) consider in-class time for clarifying, applying what is learned at home, and collaborative group projects.**

External Partnerships

- It is important to continue building relationships with external partners. **Because IT is constantly changing, WCC's external partners play a key role in ensuring that there is a link between IT education, employer needs, student skills, and job trends.**
  - Recommendations: **1) clarify partnership roles and expectations; 2) maintain regular communication; 3) regularly review together the certifications and skills needed; 4) have representatives from both CIS and Economic and Community Development participate in meetings with partners to discuss needs and trends.**

- It would be helpful for WCC to develop a system for tracking, partnership-related activity across WCC (e.g. faculty outreach, marketing. **Faculty, staff and administrators across WCC reach out to partners but there is no coordinated system to keep track of these efforts. With the creation of the WCC experiential learning coordinator position, WCC has taken an important step to institutionalize partnership development and has already implemented some of the recommendations below.**
  - Recommendations: **1) strengthen linkages between the WCC experiential learning coordinator, faculty and staff; 2) develop a system to track WCC outreach efforts to external partners; 3) continue having deans support partnership development; 4) publicize employer successes with WCC students (e.g. marketing materials, LinkedIn).**

- ♦ Faculty engagement with local employers would help strengthen curriculum and develop networks. **Many faculty have already established or want to establish their own connections with local employers.**
  - o Recommendations**: 1) facilitate a forum to connect faculty and employers to explore opportunities for collaboration; 2) consider having faculty shadow at workplaces, network with more employers; 3) consider faculty release time for similar purposes; 4) engage local employers in an ongoing review of IT curriculum and programs in a structured way.**

"IGNITE created an opportunity to **collaborate** with others throughout the college. Earlier, DL didn't serve so much as a 'partner' but was more a **resource** to be used. We're building relationships now."

-WCC Staff

CONCLUSION

IGNITE developed three Information Technology career pathways available in a blended learning format 1) Java Programming; 2) Linux/Unix Systems; and 3) Microsoft Technology Associate Networking Infrastructure Program (MTA). These pathways were developed with employer input to help align the curriculum with IT job skill needs in southeast Michigan.

WCC was able to use the IGNITE grant to build its internal capacities to develop interactive courses in a blended learning format, significantly increasing its ability to develop distance learning courses. The capacity building involved cross-departmental teamwork, faculty professional development, enhanced Distance Learning staffing, and the purchase of hardware and software. IGNITE also experimented with the development of multiple student entry points into the Information Technology academic coursework including the use of student assessment and remediation tools. For registered IGNITE students, multiple new student support services were developed and are being sustained.

External partnerships with employers, MichiganWorks! and regional workforce development networks were strengthened. This provides a strong base for collaborating with partners in future activities and fosters new student internships and job placement opportunities. WCC learned the importance of developing clear partner roles and responsibilities. An improved economy, and changes in available funding for students through MichiganWorks! resulted in recruitment challenges.

IGNITE's impact went far beyond the creation of career pathways and fulfillment of specific grant objectives. WCC's IGNITE experience has already begun to transform aspects of its culture. College administrators and faculty engaged with IGNITE are more open to exploring innovative teaching and learning practices. Teamwork and collaboration are emerging across departmental silos.

New capacities, processes, and relationships developed over the four-year IGNITE grant can be applied to new efforts, such as the College's vision to become a national center for technical training in advanced transportation. This center will be designed to emphasize the cross-functional landscape of future technical careers. What Washtenaw Community College learned through IGNITE about engaging faculty and preparing them to teach differently, effective practices for collaboration, and the endless cycle of innovation, implementation, and evaluation will be useful long after the IGNITE grant ends.

APPENDIX A: IGNITE External Partnerships

Overview of External Partner Involvement in IGNITE

This appendix provides a brief overview of IGNITE's partnership component, a list of partner roles and contributions, and discussion about supports and challenges in the partner relationships.

- **Year I:** Partners gave input on curriculum and program design.
- **Year II:** For several months the part-time internship coordinator position was unfilled and IGNITE staff were focused on participant recruitment activities. The replacement internship coordinator quickly began strengthening IGNITE relationships with the employers and the Michigan Works! agencies and reaching out to other area employers. IGNITE later enhanced her position to a full-time position. One employer partner discontinued its partnership when it moved out of Michigan entirely.
- **Year III:** IGNITE welcomed a new employer partner and continued relationship-building with partners, with a growing focus on supporting participant career development, and job search/placement activities.
- **Year IV**: IGNITE engaged partners on many levels to facilitate placements and support curricular and extra-curricular events.

The IGNITE program manager held regular (almost monthly) partner meetings on-campus or via audio-conference to update partners on program implementation progress. Partner participation in the meetings decreased over the years. The annual partner meetings allowed more discussion time.

Overview of Types of Partnerships, Roles and Contributions

Types of IGNITE Roles, Contributions	Employers (n = 5)	Michigan Works! (n = 2)	Workforce Development (n = 2)
Program design	♦ Year I discussed and provided feedback on program design, skills and character attributes (n = 3).	♦ Contributed to the training needs analysis at the grant proposal phase. ♦ Informed the need for Information Technology as a viable job retraining target and validated the numbers of displaced workers.	♦ Contributed to the initial training needs analysis identifying IT as a viable job retraining target and validating the demand for IT workers.
Curriculum development	♦ Year II provided feedback on curriculum development (n = 3). ♦ Year III and IV increased employer involvement with selected courses and campus activities (e.g. "virtual visits by employers during classes).		
Recruitment	♦ Actively engaged in recruitment (n = 2). ♦ Offered feedback about establishing internships and placements and reached out to IGNITE students (e.g. WCC Career Fairs, offering company tours/open houses to students). ♦ Used the WCC Career Connection website to post job opportunities and worked with the WCC marketing department (n = 1).	♦ Publicized IGNITE to their clients through various recruitment and placement activities. ♦ IGNITE staff provided information about IGNITE directly to interested clients on site at Michigan Works! (n = 1).	♦ Promoted IGNITE to potential students through their web resources, social media, events and distributed IGNITE promotional materials throughout their networks. ♦ Included WCC as a presenter at an IT seminar to inform its members about IGNITE (n = 1). ♦ WCC participated in Opportunity Detroit Tech Council meetings and MAGMA. ♦ Ann Arbor SPARK, an early IGNITE training partner, ran Shifting Code programming training program, before state-level funding for the program ended.

Types of IGNITE Roles, Contributions	Employers (n = 5)	Michigan Works! (n = 2)	Workforce Development (n = 2)
Placement	♦ Engaged in job and experiential learning placements; placed IGNITE students (n = 2). ♦ Provided feedback regarding establishing IGNITE internships and placements. Promoted its two-year IT Residency program to IGNITE students but has not yet placed any IGNITE students (n = 1).	♦ Collaborated with the IGNITE team on employer outreach and seeking job opportunities for IGNITE students.	♦ Promoted IGNITE program to IT employers to assist in placing IGNITE students. ♦ Facilitated *Tech Trek* (WCC was a sponsor) ♦ Deepened many IT employer contacts and introduced WCC to many new, local IT employers
Leveraging of resources	♦ Provided logistical and staffing to create video footage to support the development of the IGNITE non-credit IT Career Readiness course (n = 1). ♦ Hosted company events and invited IGNITE students to attend and talk with recruiters.		

Relationships with External Partners

Supports and challenges to WCC's relationships with employers, Michigan Works! and two other key regional workforce development agencies are described next. These findings are based on data from interviews with partner organizations and IGNITE team members most involved with the partnerships.

Employers. WCC administrators, faculty and staff, and employer representatives who were most involved with IGNITE identified key factors that either supported or were challenges to the IGNITE-employer and other partnerships.

Employer Partners – Supports and Challenges

Supports	Challenges
◆ Full-time, experienced IGNITE staff member to build employer relationships and support placements	◆ Staff turnover (in employer offices and in WCC positions)
◆ Company culture committed to working with community colleges	◆ Lack of strong cross-college employer partnership-related communication & planning
◆ Strong employer tie-in to the local community	◆ Limited CIS faculty involvement with employer partners
◆ Companies in a growth phase with interest in hiring	◆ Logistical challenges (described below)
	◆ Employer not able to use interns in its work with clients
	◆ Employers lacking a clear understanding of how they can contribute

Not surprisingly, continuity in relationship-building with employers was challenged by turnover in the IGNITE Internship Coordinator position and by staff turnover within employer offices. The partnerships thrived most when IGNITE had a full-time Internship Coordinator position filled by someone with strong professional experience related to corporate internship programs. Partnerships also worked especially well in companies with an organizational culture of commitment to working with education partners, including community colleges.

As IGNITE sought to increase activity with employers, it became evident that WCC needed a strong infrastructure to facilitate communication and planning about employer partnership activity across the college. Also, it became evident that it would be helpful for CIS faculty to become more involved with employer partners. Logistical challenges included employer time constraints, difficulties identifying the key company contact person, and lack of a structured way for employers to provide ongoing feedback on IGNITE curriculum and overall program. Although employer partners signed initial agreements about partnership role expectations, the expectations were understandably vague at that early stage. IGNITE and the some of the companies realized later that it would have been helpful to have more regular discussion about specific ways individual partners could contribute to IGNITE.

Michigan Works! The IGNITE partnerships were supported in large part because of the long-time relationships between WCC and the agencies and mutual interests in serving both job-seeker and employers. These factors were especially helpful to IGNITE when discussions with the two Michigan Works! agencies were needed to clarify understandings about partnership roles.

Michigan Works! Supports and Challenges

Supports	Challenges
♦ Previous relationships between WCC and each agency, and mutual interests ♦ Having WCC staff at Washtenaw Michigan Works! location ♦ Michigan Works! activities to publicize IGNITE and collaborate on events	♦ Recruitment limitations and related misunderstandings ♦ Lack of clarity of goals, roles, expectations

The key challenge in these was for WCC to understand how limited the agencies were in providing any help with participant recruitment and in paying tuition costs. Michigan Works! encountered a decrease in available federal training funds, changes in certain Michigan Works! regulations, and a diminishing pool of displaced workers who would be a good fit for an IT training program.

Workforce development partners. IGNITE activity built upon WCC's already-established relationships with the two workforce development organizations, WIN in southeast Detroit, and Ann Arbor SPARK. High-level WCC representatives serve on boards and committees of both organizations. These two organizations collaborated on events that included faculty and/or students, companies, and other organizations. They also coordinated joint events. These events and connections helped link WCC and its students with local employers. WCC's vision related to workforce development, occupational training, and "feeding" the IT pipeline aligns with the organizations' visions. These factors made it easier to strengthen the relationships with the organizations and build new relationships within their networks.

Recruitment activity through IGNITE's partner Workforce Intelligence Network of Southeast Michigan ((WIN) was significant. WIN's Board of Directors includes Michigan Works! executive directors and ten community college workforce VPs (include WCC's) and deans. The IGNITE program manager worked with WIN in various ways to recruit IGNITE participants through the organization's various activities, including its meetings of people representing area IT companies.

Workforce Development Supports and Challenges

Supports	Challenges
♦ Previous relationships between WCC and each organization	♦ Lack of clarity of partner roles and expectations
♦ Alignment of visions - support for regional development	♦ Removal of state funding for planned course offerings through Shifting Code
♦ Workforce development events and connections	♦ Changes in key staffing at one of the partners

Despite the strong on-going relationships, partners generally note it would have been helpful to have better communication and more clearly defined IGNITE expectations and roles upfront. IGNITE had all partners sign an agreement about partner expectations, but it became clear that ongoing discussion to clarify expectations as the grant period evolved was needed.

APPENDIX B: Overview of Key IGNITE Activities By Grant Year

Year 1	Year 2	Year 3	Year 4
Developed IGNITE Administrative Structure			
♦ Hired key IGNITE staff ♦ Selected and engaged third-party evaluation consultants ♦ Began regular meetings of IGNITE team and of external partners	♦ Continued regular IGNITE team meetings	♦ Continued regular IGNITE team meetings	♦ Continued regular IGNITE team meetings through March 31, 2016
Program Design: Curriculum Development & Course Offerings			
♦ Mapped out curriculum development schedule ♦ Assigned faculty curriculum developers to courses	♦ Ongoing course development, increased use of interactive learning software ♦ Adjusted length of course modules and scheduling ♦ On-going curriculum review for alignment with quality standards & Ellucian ♦ Decision: *Contextualized Learning for Math* changed from pre-requisite to optional online remedial resource	♦ Finished course development and submission of curriculum for third-party review ♦ Courses revised based on feedback ♦ Increased emphasis on advanced level courses & MTA. ♦ New leadership in Distance Learning division ♦ Distance Learning staff reorganization and cross training	♦ Third-party curriculum review completed and curricula uploaded to Creative Commons/Merlot ♦ Java SE Programming Certification exam prep seminars covered, with costs covered ♦ WCC payment for MTA exam ♦ All but two accelerated courses reverted back to 15 weeks due to student success concerns ♦ Development of college-wide model & policies for developing e-learning courses, based largely on IGNITE experiences

Year 1	Year 2	Year 3	Year 4
Entry Point – Assessments and Non-credit			
◆ Renovated testing center ◆ Assigned testing center administrator and hired proctor ◆ Purchased and installed assessment and remediation tools (e.g. WorkKeys, KeyTrain, PowerPath Learning System) ◆ Began developing IT Career Readiness/IC3 course	◆ Developed and offered IT Career Readiness/IC3 course ◆ Students completed assessment and certification exams (e.g. WorkKeys) ◆ Five students completed the IT Career Readiness course. Out of those five, three also completed the NCRC.	◆ IT Readiness course cancelled due to low enrollment and because Michigan Works! unable to pay for tuition ◆ Continued certification & assessment exams	◆ Continued certification and assessment exams
Student Support Services			
	◆ IGNITE case manager and program coordinator, and IGNITE placement and internship coordinator positions changed from part to full-time ◆ Group study and tutoring support begin	◆ Continued development of case-management approach to student support ◆ Two part-time tutors hired ◆ Group study continued	◆ Through March 31, 2016, ongoing IGNITE case management student support, group study and tutoring ◆ Students transitioned to the divisional advisor in spring 2016
Professional Development			
◆ Established agreement with Quality Matters for faculty and staff training sessions	◆ Completed staff and faculty development/training in Quality Matters ◆ Strengthened *informal* faculty coaching/training between Distance Learning department and CIS faculty	◆ Informal faculty coaching and sharing course development ideas	◆ Ongoing informal faculty coaching and sharing course development ideas

Year 1	Year 2	Year 3	Year 4
Relationships with External Partners			
♦ Discussed and provided feedback on program design, skills, and character attributes	♦ On-going coordination with local employers, SPARK, WIN IT Council to identify needed participant skills and provide feedback on curriculum and program ♦ Monthly partner meetings	♦ Relationship-building with companies & organizations and relationship-strengthening relationships among employers, agencies, key WCC staff and faculty ♦ Supported students seeking placements	♦ Through March 31, 2016 continued efforts to build new relationships with companies and organizations ♦ Strengthened relationships among employers, agencies, key WCC staff and faculty ♦ IGNITE placement and internship coordinator became newly created WCC coordinator of experiential learning but continued to offer specialized support to IGNITE students through March 31, 2016
Student Recruitment			
	♦ IGNITE program manager presented at Michigan Works! ♦ Attended career fairs ♦ Visited IGNITE classes ♦ Other recruitment activities	♦ Continued efforts for JAVA and Linux ♦ Increased focus on MTA recruitment	
Transferability/articulation Agreements between WCC & Eastern Michigan University (EMU)			
	♦ Completed transferability/articulation agreements between WCC & EMU		

Infrastructure and Equipment

- ♦ Purchased and installed Distance Learning equipment, software, and licenses, as needed (e.g. NetLabs computer hardware and data storage hardware, faculty toolkit (six laptops with interactive learning development tools; video equipment; two Surface Pros (Microsoft tablets); software licenses (e.g. 3-year Certiport software license (MTA); ACT Career Ready 101 remedial software system)

Appendix C: Outcomes Memo for Intentionally Growing New Information Technology (IGNITE) TAACCT Grant

Outcomes Memo for Intentionally Growing New Information Technology (IGNITE) TAACCT Grant

This data summary provides detailed participant outcomes for individuals who enrolled in and completed at least one of three information technology credit training programs offered by Washtenaw Community College's (WCC) under its round 2 TAACCCT grant called Intentionally Growing New Information Technology (IGNITE).[1] The Washtenaw IGNITE project strived to provide students with introductory computer technology training in Microsoft, JAVA and Linux applications that would serve as a pathway into more robust training programs at the college, including college certificate and associate degree programs. While the ultimate goal is for students to attain well-paying information technology jobs, IGNITE was primarily a career pathway program that assessed individuals' desire to pursue and develop the technical skills and abilities needed for an information technology career.   This memo explores how far WCC has come in realizing its goals for the students enrolled in IGNITE credit training programs only, including training completion rates, employment rates, wage increases and retention in employment.

WCC contracted with Social Policy Research Associates (SPR) to conduct an analysis of employment-related outcomes for its round 2 TAAACCT grant using wage data provided by the Michigan Workforce Development Agency (WDA), specifically for three DOL-required measures: (1) total number of students employed after study completion, (2) total number retained in employment after program of study completion and (3) total number of those employed at enrollment who received a wage increase post-enrollment. Under this contract, WCC provided student-level data to SPR and under a separate Data Use Agreement with WDA, wage data was provided to calculate the employment-related outcomes above. A total of 152 individuals were included in WCC's data submission and all of these students participated in at least one IGNITE training program, but valid social security numbers were only available for 149 of these credit students. The SSN is the primary and only data element that can used to match against wage data from the WDA so the data summary explains when there is missing data for students. SPR obtained wage data from WDA from quarter 1 of calendar year 2012 through quarter 2 of calendar year 2016.

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[1] WCC also served a significant number of non-credit students under their TAACCCT grant; approximately 75 noncredit students. A decision was made by WCC leaders to not include noncredit participants in the TAACCCT performance and outcomes analysis included in this memo because the services provided to these noncredit students were considered "soft-touch" and meant to help students identify whether a computer-technology career was the right path for them and to help conduct assessments, using WorkKeys, to see whether students had the requisite skills to enroll in the credit programs and to remediate if they did not possess the needed basic skills levels to enroll.

Conversions of Student-Level Data to Match Wage Data Timeframes

Again, WCC provided SPR with student-level data for 152 students enrolled under its IGNITE credit programs only. Due to a slow start-up, DOL provided WCC with an extension through March 31, 2016 to complete grant-funded services for students and to document student-level achievements. Because this extension occurred in the middle of the spring 2016 semester, a number of students were unable to document completion of their college certificate and degree programs until May 2016, which significantly impacted performance outcomes, such as training completion numbers, credential attainment, and employment.

Wage data is represented by quarters, and the assumption is that these quarters represent the following months per given calendar year:

- Quarter 1: January-March
- Quarter 2: April-June
- Quarter 3: July-September
- Quarter 4: October-December

Based on the student-level data submitted by WCC, SPR conducted a number of data conversions in order to approximate age at enrollment, program completion and exit dates for students. A detailed description of these conversions is contained in Appendix A.

Analysis Using DOL TAACCCT Reporting Guidance

The analysis provided in the next section is based on the definitions and reporting guidance provided by DOL in its Trade Adjustment Assistance Community College and Career Training Grants: Annual and Quarterly Program Reporting Forms and Instructions, Round 2, 3 and 4, dated June 2016. Using DOL's guidance to calculate program outcomes places some limitations on which IGNITE students are included and/or excluded from counts, especially for the outcomes that rely on wage data as the primary data source. Any exclusions or limitations in the data provided are outlined in our analysis.

It is important to note that at the time this analysis was conducted for WCC, wage data from the State of Michigan was only available through quarter two of calendar year 2016. As such, a complete set of wage data (quarters one, two and three post exit quarter) is not available for all students that completed their IGNITE program and exited the college after quarter three of calendar year 2015. Thus, the availability of quarterly wage data limits the analysis that can be conducted for students that completed and exited WCC programs later in the grant's period of performance. The table below represents when last exit quarter could occur for a complete analysis of employment-related outcomes using wage data (i.e., employment, retention and earnings). Thus, SPR was able to analyze the number of IGNITE students who were not incumbent workers, but who had completed their program of study and exited the college as of

quarter one of calendar year 2016. However, retention could not be calculated for this same group of employed individuals because wage data for quarters 2 and 3 post employment were not yet available from the state.[2]

	Latest Possible Exit Quarter for Wage Data Analysis
B.8. Total Number Employed After Program of Study Completion	Quarter 1 of 2016
B.9. Total Number Retained in Employment After Program of Study Completion	Quarter 3 of 2015

Appendix B provides the cumulative numeric value for the Annual Performance Report (APR) required of all TAACCCT grantees using the most recent reporting definitions and clarifications provided by the DOL as of June 2016. If an item is left blank in Appendix B that means the college did not provide the data to support analysis and reporting of this data element. In a few instances discussed below, NA or Not Applicable is placed in the APR cell because data could not be reported. This was due to the aggregate numeric value in the cell being comprised of three or fewer students.

IGNITE Credit Program Participant Demographics, Training Enrollment, Completion and Credentials Obtained

This section of the memo outlines some of the demographic characteristics of participants enrolled in IGNITE credit programs, the types of training students enrolled in, their ability to complete these training programs and the credentials obtained.

Demographics

- The majority of credit students served by the IGNITE project were male (81 percent).
- The majority of IGNITE credit students were white (73 percent) followed by African-American (17 percent) and Asian (4 percent).
- The average mean age of credit students enrolled in IGNITE credit programs was 32.7 years of age.
- Sixty-one percent of IGNITE credit students (92 students) were incumbent workers at the time of program enrollment, which suggests that a large percentage of students needed to work to support themselves during the course of their training.
- Over half of all students that completed a grant-funded program of study (58 percent) were incumbent workers.[3]

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[2] See Appendix C for a detailed discussion on the limitations of using wage data for calculating performance measures.

Exhibit I-1: Credit Student Demographics (n=152)
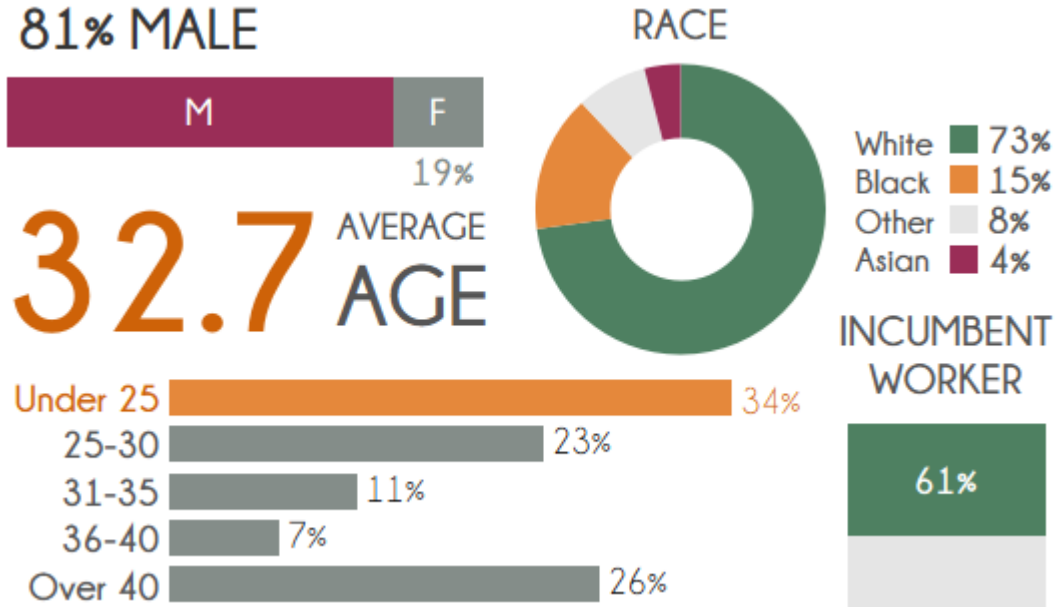
Credit Program Training Enrollment and Training Completions

- A total of 152 students enrolled in an IGNITE TAACCCT-funded credit program.
- Thirty-two percent, or 48 of 152 enrolled IGNITE credit students, completed a program of study by the end of the grant period (March 31, 2016) (See Appendix B).
- Of the 48 credit students that completed an IGNITE program, all of them earned at least one type of credential and, in four cases, students completed more than one type of IGNITE training program thereby earning multiple credentials.
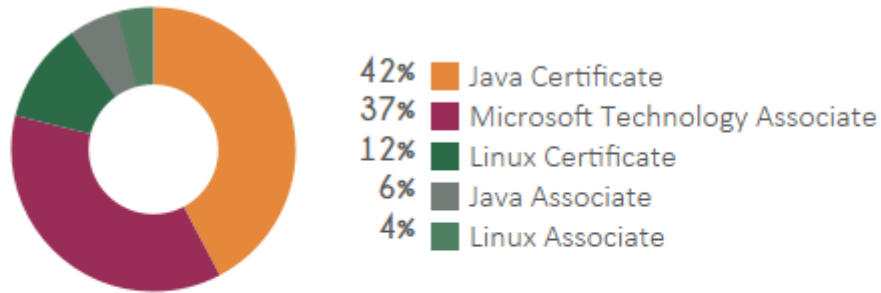
Credentials (Professional Certificates, Academic Certificates and Degrees)

College and professional credentials help participants obtain the skills needed to obtain employment in the computer technology industry and achieve a livable wage. WCC's IGNITE training programs provided credit students with three available training options that helped students obtain a variety of credentials, including professional certifications (i.e., industry-recognized credentials), college certificates and associate degrees.

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[3] Depending on which variable is used for the analysis, Employed or Income, the number of participants considered to be an incumbent worker at the time of enrollment changes. There were 16 individuals that are reported as Employed, but had a reported income of not applicable or "No." For the purposes of our analysis, Employed was used to determine incumbent worker status at time of credit program enrollment. This means that there were 92 incumbent workers included in our analysis.

Exhibit I-2: Types of Credentials Attained

Percent of Credentials Completed by Program Type (n=52)

- 42% Java Certificate
- 37% Microsoft Technology Associate
- 12% Linux Certificate
- 6% Java Associate
- 4% Linux Associate

Percent of Credit Students Earning Credentials by Credential Type (n=152)

- Degree 3%
- One year or less 30%

Source: Demographic data about WCC participants was obtained from the college's student information system.

- Across all 152 students enrolled in IGNITE credit programs, 48 students earned an aggregate total of 52 credentials (academic and/or professional certificates) by the end of the grant period (i.e., March 31, 2016).
- Forty-four credit students earned a single credential (industry-recognized credential, college certificate or AAS) whereas four credit students earned more than one credential. Three of these four credit students earning more than one type of credential earned a college certificate of less than one year as well as an AAS, and one credit student earned two different college certificates of less than one year.
- Of all credit students enrolled in IGNITE credit training programs, 30 percent earned a credential of less than one year (46 students) and 3 percent earned a degree (5 students). As one individual completed two credentials of less than one year, 46 are counted as earning this credential type, even though 47 credentials of less than one year were earned. Note: The APR only allows students to be counted once in 6a. Total Number of Students Earning Certificates - Less Than One Year (aggregate across all enrollees). Secondly, as three individuals earned both a degree as well as a credential of less than one year, the counts (and corresponding percentages) are not mutually exclusive. Exhibit I-2 shows the type of credentials earned across all enrolled credit students.[4]

[4] It is important to note that the grant period ended in the middle of the spring 2016 college semester, so a number of students were unable to complete their training programs and obtain their college and/or industry-certifications by the end of the grant period. Therefore, students that obtained college credentials and industry certifications in May 2016 when the college semester ended are not captured in this analysis since they earned their credential after the grant's period of performance ended.

- The most common type of credential obtained was the Java Certificate (42 percent or 22 credentials) followed by the Microsoft Technology Associate (37 percent or 19 credentials), both credentials of less than one year (See Exhibit I-2).
  - Six of the credentials earned were the Linux Certificate (12 percent), three the Java Associate (6 percent) and two the Linux Associate degree program (4 percent).
- By the time they completed their credit IGNITE program of study, all 48 students that completed their program of study would eventually leave WCC with at least a college certificate or an industry-recognized credential.[5]
  - As there were only three exiters at the end of the grant's period of performance, an analysis of the types of credentials these students earned was not included in the data summary. DOL guidance prohibits reporting of data when cell sizes are comprised of three or less in order to maintain individual-level data confidentiality.[6]

Employment and Retention Outcomes for Exiters

DOL's definition of exiter and non-incumbents greatly affects the number of students that are included in the APR data analysis. Per the reporting instructions, only students that are (1) not incumbent workers, (2) who have completed a TAACCT-funded program and (3) who are no longer enrolled at the college in any program of study should be included in the performance measure B.8. Total Number Employed After Program of Study Completion. In Appendix B, the actual number for B.8. on the APR was three or less, so aggregate data on students is not included in our analysis per DOL reporting guidance and use of wage data requirements established by Michigan Unemployment Insurance Agency (UIA). We have provided a footnote explaining why Not Applicable is entered into this cell on the APR. This same logic on cell size applies for B.9. Total Number Retained in Employment After Program of Study Completion.[7]

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[5] While these 47 students completed their IGNITE credit training program, some had not yet exited all college programs.

[6] Of the three exiters, one student earned a Microsoft Technology Associate, which was an industry-recognized credential and two exiters earned their Java Certificate.

[7] Performance measure B.9. Total Number Retained in Employment After Program of Study Completion is also affected by the exit quarter and wage data availability for quarters two and three post exit quarter. Retention in quarters two and three after exit could not be analyzed as the individual completed their training program in spring 2016 and wage data was not yet available from WDA for these quarters.

Wage Increases for Incumbent Workers

For those individuals who were employed at the time of enrollment (i.e., incumbent workers), DOL requires that grantees assess the total number of incumbent workers that received a wage increase at any time post-enrollment. In order to conduct this analysis, SPR reviewed the difference in wages between the quarter prior to the enrollment quarter and the highest earnings quarter for the incumbent worker in the quarter of or subsequent quarters following the enrollment quarter.

- Seventy-one percent of incumbent workers or 65 credit students experienced an increase in their wages after enrollment (See Exhibit I-3). Of the 9 incumbent workers that did not experience a wage increase, many were relatively close to their former earnings levels based on a wage data analysis.

- For incumbent workers with post-enrollment wages being lower than pre-enrollment wages, the aggregate wage data shows generally negligible differences in earnings before and after enrollment (i.e., three incumbent workers between $109-$561, five between $1,646-$7,832, and one outlier with $29,774).

- Of the 18 cases where the wage increase status is unknown for incumbent workers, it is because nine incumbent workers did not have employment wages for the quarter prior to enrollment so an analysis of quarterly wages pre- and post-enrollment could not be undertaken (See Exhibit 1-3). Again, as described in Appendix C, this could be due to the fact these individuals were working outside the State of Michigan, but since wage data is unavailable pre-enrollment, an analysis could not be undertaken. In this regard, there were potentially more than 65 incumbents that experienced a wage increase—had wage information been available through the State of Michigan for these 9 individuals.

- Wage increases were calculated for a total of 16 non-incumbent students, of which 7 experienced a wage increase at some point in either the quarter prior to enrollment through any quarter following IGNITE enrollment. While these individuals were not noted as employed at the time of enrollment based on the college's data extract, they did have reported wages in the quarter prior to enrollment—which indicates that these individuals did formerly have jobs, though not necessarily at the time of TAACCCT-funded IGNITE enrollment.

Exhibit I-3: Wage Increase

Total Number of Incumbent Workers Who Received a Wage Increase After IGNITE Enrollment (n=92)

- 10% No wage increase
- 20% Unknown
- 71% Wage increase
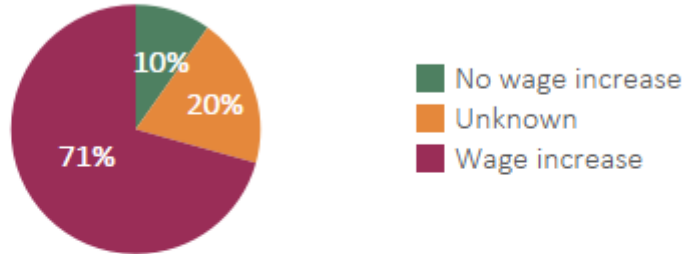
Total Number of Participants Who Received a Wage Increase After Program Enrollment by Employment Status (n=152)
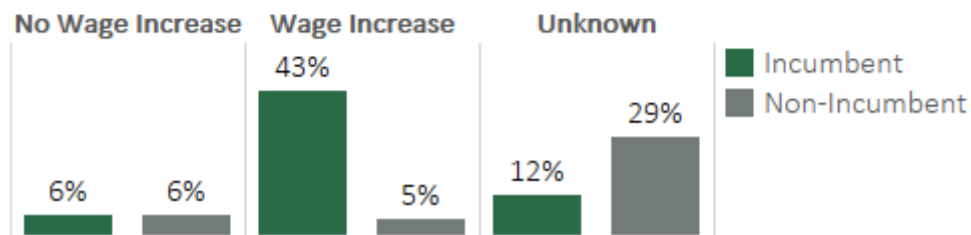
	No Wage Increase	Wage Increase	Unknown
Incumbent	6%	43%	12%
Non-Incumbent	6%	5%	29%

Source: Demographic data about WCC participants was obtained from the college's student information system. Eighteen students are marked as unknown because wage records were unavailable in the pre-enrollment or post-enrollment quarters to conduct the analysis.

## Employment Outcomes by Program Completers

Because so few IGNITE students had "exited" the college by March 31, 2016 when the grant ended, we decided to provide WCC with an analysis of employment-related outcomes based on the 48 students that "completed" their IGNITE credit program. This analysis includes all completers (incumbents and non-incumbents); we have arrayed the data based on the two subgroups employed at enrollment versus not employed at enrollment.

Employment Status Among Completers

- Overall, the majority of credit student completers (56 percent) were employed the first quarter after completion, regardless of whether they were employed at the time of enrollment or not. This translates into 27 out of 48 completers (See Exhibit I-4).
  - Of the 27 program completers who were employed the first quarter after completion, eight were not employed at the time of enrollment compared to 19 who were incumbent workers.
  - Wage data was missing for 13 percent of completers (6 students).

Exhibit I-4: Employment Outcomes by Program Completers

Percent of Completers Employed the First Quarter After Completion, Regardless of Employment Status at Enrollment (n=48)
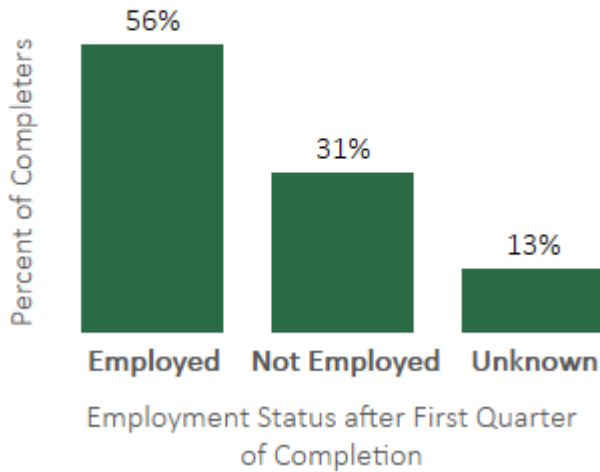
Percent of Completers Employed the First Quarter After Completion, Based on Enrollment Status (n=48)
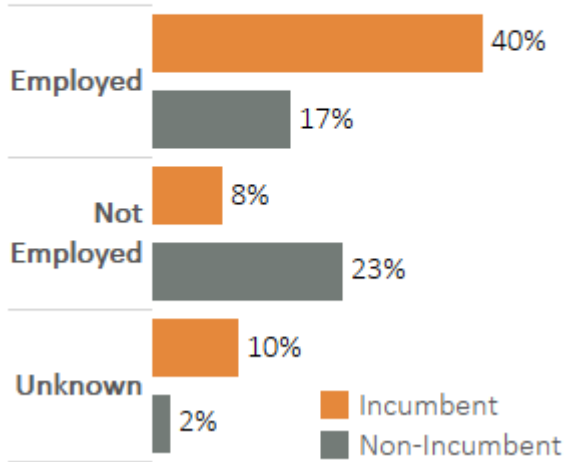
Source: Demographic data about WCC participants was obtained from the college's student information system. Six students are marked as unknown because they completed their training program in quarter two of 2016 and wage data was not yet available from the state for quarter three of 2016.

Retention Status Among Completers

It is not only important for IGNITE students who complete their training program to obtain employment, it is equally important that they *retain employment*. To assess employment retention, SPR calculated the percentage of IGNITE program completers employed during the first quarter after program completion who were still employed in the second and third quarters after program completion using wage records from the Michigan Workforce Development Agency.[8]

- Fifty-two percent of those who found employment in the quarter following completion retained their employment the two quarters following study completion. SPR did not have an exit date for these students since they had not yet left the college, so we used the quarter of study completion to approximate an "exit quarter" for wage record analysis. Of the 27 participants who successfully completed their IGNITE training program(s) and were employed during the quarter after IGNITE program completion, 14 of them remained employed through the following two quarters (includes both

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[8] Employment did not have to occur with the same employer to count for the retention measure. Participants had to show some earnings in the wage records in the first, second and third quarters after program completion to count in the retention measure.

incumbents and non-incumbents (See Exhibit I-5).   Retention was highest among students enrolled in the Java Certificate and Microsoft Technology Associate training programs

– Retention could not be determined for 10 individuals because there were only two quarters of wage data following program completion for analysis and evaluators needed three quarters. However, each of these 10 completers had wages in quarters one and two post completion, which suggests they would likely have had wages in quarter three post-completion if quarterly wage data had been available.

Exhibit I-5: Retention

Percent of Completers Retained in Employment Quarters 2 and 3 After Completion, Regardless of Employment Status at Enrollment (n=27)
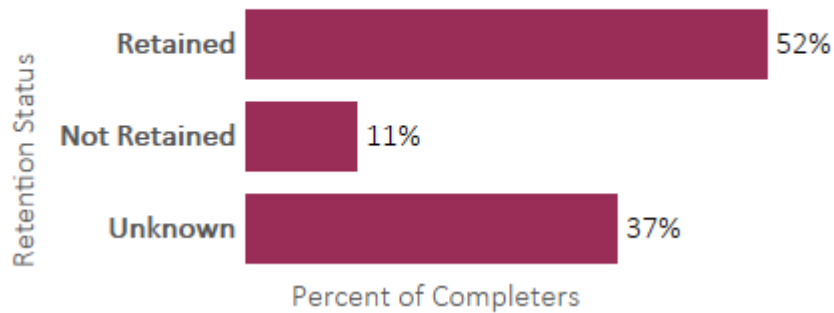
Source: Demographic data about WCC participants was obtained from the college's student information system. Six students are marked as unknown because they completed their training program in quarter two of 2016 and wage data was not yet available from the state for quarter three of 2016.

Appendix A—
IGNITE Participant Data Conversions Conducted by SPR

The program completion and exit dates provided by WCC were converted to the quarter and year in which the program was completed by the student or the exit date was provided in order to conduct the wage data analysis based on the wage data quarters outlined below.

- Quarter 1: January-March
- Quarter 2: April-June
- Quarter 3: July-September
- Quarter 4: October-December

Additionally, the enrollment term provided by WCC was already formatted by calendar year and quarter in which enrollment began, the timeframe representing each of the four terms or semesters may not perfectly align with the above quarterly wage data timeframes. In other words, if the first quarter of 2012 represents wage data from January 1 through March 31, 2012, the first enrollment term in 2012 for WCC students may actually represent January 2 through March 23, 2012. However, they serve as nearly similar timeframes for the respective variables used in the wage data analysis.[9]

Lastly, age of IGNITE students at enrollment was calculated using information on enrollment term. Again, as described above, enrollment terms in a given calendar year may not fall perfectly along the dates specified by a calendar quarter (e.g. the first quarter are months January-March). Therefore, age at the time of enrollment is calculated using the participant's birthdate and the first day of the calendar quarter—to serve as a rough estimate of when the enrollment term began. This variable is imprecise and should be replaced with actual WCC age data—if it is available to replace 6. Participant Age (mean) of 32.7 in Appendix B.

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[9] The enrollment term provided by WCC had what appeared to be a year and month (e.g. 201509). So these data were converted to quarter-equivalents as well. Common months were 1, 5, and 9.

Appendix B—
DOL Annual Performance Report on IGNITE Credit Students

Performance Items	Cumulative
B. Cumulative Participant Outcomes (All Grant Participants)	
1. Unique Participants Served/Enrollees	152
2. Total Number of Participants Who Have Completed a Grant-Funded Programs of Study	48
2a. Total Number of Grant-Funded Program of Study Completers Who Are Incumbent Workers	28
3. Total Number Still Retained in Their Programs of Study (or Other Grant-Funded Programs)	
4. Total Number Retained in Other Education Program(s)	
5. Total Number of Credit Hours Completed (aggregate across all enrollees)	
5a. Total Number of Students Completing Credit Hours	
6. Total Number of Earned Credentials (aggregate across all enrollees)	52
6a. Total Number of Students Earning Certificates - Less Than One Year (aggregate across all enrollees)	46
6b. Total Number of Students Earning Certificates - More Than One Year (aggregate across all enrollees)	0
6c. Total Number of Students Earning Degrees (aggregate across all enrollees)	5
7. Total Number Pursuing Further Education After Program of Study Completion	
8. Total Number Employed After Program of Study Completion	NA[10]
9. Total Number Retained in Employment After Program of Study Completion	NA[11]
10. Total Number of Those Employed at Enrollment Who Receive a Wage Increase Post-Enrollment	65
C. Cumulative Participant Summary Information (All Grant Participants)	
1a. Male	123
1b. Female	28
2a. Hispanic/Latino	3
2b. American Indian or Alaskan Native	0
2c. Asian	5
2d. Black or African American	23
2e. Native Hawaiian or other Pacific Islander	1
2f. White	102
2g. More Than One Race	5
4. Incumbent Workers	92
6. Participant Age (mean)	32.7

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[10] Aggregate student data was too small to meet DOL minimum cell size reporting requirements (more than three) and to maintain student-confidentiality thus NA (Not Applicable) was placed into this APR data element.

[11] Same as above on minimal cell size.

Appendix C—
Limitations on Use of Wage Data

Wage data can be a very valuable tool for tracking and analyzing employment-related outcomes for students that enroll in and complete community college training programs. However, wage data has a number of limitations that are outlined below:

- **Wage data does not include all types of employment.** Wage data does not include all people that make up a state's labor force. For example, wage data omits agricultural employment, self-employed, military personnel, federal civilian employment, and railroad employment. To address this limitation on the types of employment covered in state-level wage data, some states link their individual-level wage data with employment data from the U.S. Department of Defense (DoD), U.S. Office of Personnel Management (OPM), U.S. Postal Service, and other state wage data through the Wage Record Interchange System (WRIS).

- **Wage data is not reported in a timely fashion.**   All states collect quarterly wage data and as such employers are given additional time at the end of a given calendar quarter to submit their wage data on workers to the state (i.e., usually 30 days from the end of the calendar quarter). In addition, the state has time to review the data and make corrections/additions to the data set. As such, there is usually a minimum of a two-quarter lag in a state's reporting of quarterly wages.

- **Wage data does not include an individual's actual employment start date.**   This lack of an exact start date makes it difficult to analyze quarterly earnings among various students because some may start at the beginning of a calendar quarterly, versus others may become employed at the end, which may affect earnings for a given quarter.

- **Wage data does not include an individual's hours worked.** Generally, state wage data only contains the total wages paid to an employee in the given calendar quarter being reported. While some states require reporting of hours worked during each quarter, Michigan does not. This presents a dilemma regarding interpreting wage data differences for two different workers, both of whom may have worked across the full duration of a given calendar quarter, but one of whom works full-time compared to the other who is only working part-time. Without data on hour worked in a calendar quarter, the first worker will appear to have been paid at a much higher rate than the second.

- **Wage data may not be available for students that find employment outside of Michigan.** Wage data is maintained at a state-level, which means each state governs what data is required to be submitted (wages, hours, employment codes, occupation codes, etc.). For students that travel outside for Michigan for employment, even though Michigan is a WRIS state and shares data with other states, the data may not be readily available in the calendar quarter needed for analysis.

- **Wage data does not include the occupation in which the worker is employed.** In order to analyze if the training provided by community colleges led to employment (i.e., training-related employment), states must also report the worker's occupation in order to make a closely tie between training and employment. Michigan provides the employer's North American Industrial Classification System (NAICS) code, which is helpful, but there are many different occupations that may be employed within a given industry. For example, wage data cannot distinguish if a student that completes an information technology program is working in that field or is working on a manufacturing line when the NAIC applies to automotive manufacturing.

Appendix D: Institutional-Level Changes at WCC

PRIOR TO IGNITE	DURING IGNITE YEARS	ONGOING/FUTURE PLANS
Blended Learning Course Development		
No dedicated Distance Learning (DL) staff to develop blended learning courses	IGNITE-funded DL staff dedicated to developing blended learning courses Re-organized DL department (2015) converting key IGNITE DL positions to full-time WCC staff	WCC maintains re-organized DL staffing dedicated to supporting the development/conversion to courses in a blended learning or online format
No WCC faculty training in developing courses in blended learning format	Professional development – Faculty and staff training from Quality Matters and Ellucian; "train the trainer" training; *informal* coaching and support between DL department and CIS faculty for curriculum development	Development of training standards for all WCC faculty planning to develop and offer a blended learning course
No college-wide model for developing blended learning courses	Creation of a college-wide model for developing blended learning/online courses. The model includes: ♦ A team of the lead faculty and Distance Learning staff ♦ Master core site for each course; all sessions of the course receive the same content, with some flexibility ♦ Integration of multi-media in courses, esp. 2-D components; gamification aligned with Bloom's Taxonomy ♦ Policies and procedures about faculty preparation for teaching, reimbursements, course development, update and audit schedules ♦ Regular reviews and updates of courses ♦ Implementation of formal project management processes	Use of the model for development of all WCC blended learning courses 2015-16 (first year Strategic Initiative) ♦ Production costs down 73% ♦ Online enrollment up 25%

PRIOR TO IGNITE	DURING IGNITE YEARS	ONGOING/FUTURE PLANS
No process for 1) embedding remedial content into online/blended learning courses 2) integrating assessments within online/blended learning courses	IGNITE built a model for embedding "Math for Programmers" into CPS 120 Distance Learning staff integrate assessments into courses for review of individual and group student analytics; student learning/outcome data; anonymous student feedback	Ongoing – applicable college-wide
Prior to IGNITE CIS offered one course with nominal interactive software use In 2014, WCC produced eight new online/blended learning courses	Two new courses developed, nine converted to blended learning format, and one blended learning CIS course redesigned as part of IGNITE grant	DL Division oversees the creation/ conversion of approximately 40 courses to blended learning/online formats annually
	Purchased software licenses and hardware to support use interactive course elements (animation, simulations, etc.) Distance Learning strengthens its processes for updating software and storing and maintaining hardware	Ongoing use of software and hardware to add interactive elements to online and mixed mode courses college-wide Ongoing – systems to assess technology needs, keep software updated and store and maintain hardware
	Purchase of Symplicity Career Services software system; user training	Ongoing – still in use
	SARS student services scheduling	Planned ongoing use of the system/software

PRIOR TO IGNITE	DURING IGNITE YEARS	ONGOING/FUTURE PLANS
Student Support Services		
No dedicated WCC position to coordinate employer relationships to support experiential learning	IGNITE placement and internship coordinator focused on external relations with the *Information Technology* sector. This supported curriculum development, internships and job placements, and extra-curricular IT-related activities.	IGNITE's Internship and Placement Coordinator was hired in a new FT college position: WCC experiential learning coordinator, based within Career Services.
Some academic advisement to CIS students and informal placement support from faculty	Dedicated advisement and placement support for IGNITE participants	WCC is now reflecting on the value of dedicated advisement and placement support cross-college; in 2013 WCC decentralized academic advisement services.
No 24/7 IT support for students, faculty and staff	WCC hired staff for an Information Technology Help Desk to support IGNITE activity (2015). Provided 24/7 support to faculty and staff via email and phone	To support growing use of technology in WCC courses, as of Spring 2016 the IT Help Desk added a 24/7 tech support chat line
Other Institutional Changes		
	WCC and Washtenaw Community College Education Association established contractual agreement re: faculty involvement in developing and teaching BL/online courses	
	Increased understanding of importance of engaging key faculty and staff from beginning of a project. Applied to new initiative.	Ongoing
Distance Learning administrator was not part of WCC's hiring committee	Sr. Director for E-Learning has become part of the WCC hiring committee	Ongoing
	To minimize costs to students 1) use of Open Educational Resources (OER), 2) significant negotiation with software solutions companies/publishers to minimize costs of integrating their content into courses	Ongoing Experience with this type of negotiation process can now be used with other WCC courses
	Strengthened outreach to local, regional, and national audiences regarding WCC's distance learning achievements and new processes (e.g. conference presentations)	Ongoing

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