Models for Integrating IELCE and IET

CASAS SUMMER INSTITUTE, ANAHEIM, CALIFORNIA
JUNE 12, 2019, 1:30 PM - 3 PM
SIGRUN UTASH, SIMI INSTITUTE FOR CAREERS AND EDUCATION
Integrated EL Civics (IELCE) curriculum must support Integrated Education and Training (IET) to prepare learners for the workforce.

This session will describe the Machine Tech IET at Simi Institute for Careers and Education.

We will discuss our program model, our challenges & our successes.
Simi Institute for Careers and Education

between 2,000 – 3,000 students enrolled
around 400 ESL students enrolled
CTE programs:

- Business & Computer Tech
- Computer Graphics
- Cosmetology
- Dental
- Machine Tech
- Medical
- Real Estate
- Upholstery
- Welding
REASONS FOR and BENEFITS OF IET
“Specifically, the Integrated EL Civics program must be designed to:

- Prepare ELLs for, and place in, unsubsidized employment in in-demand industries and occupations that lead to economic self-sufficiency; and

- Integrate with the local workforce development system and its functions to carry out the activities of the program.”
Local need

Haas Automation – One of the world’s largest manufacturers of precision machine tools

Headquartered in Oxnard, CA

Produce 13,000 machines per year

Potential employer

Local manufacturing companies use Haas equipment and need skilled operators
Job prospects and sustainable wage:

Manufacturing jobs in our area are plentiful

Students with 1 to 2 course certificates can earn around $15 per hour to start
With 1 year’s experience can earn as much as $20 per hour
With a few years’ experience workers can earn between $30 - $35 per hour

Financial assistance for CTE class tuition is available thanks to Haas’ generous grants to support our program
PREPARING FOR OUR IET
Why Machine Technology?

Students do not need a HS diploma or GED to enroll in the program.

Employers in this field do not generally require HS diploma/GED as a condition for employment.
Preparing for employment

Students can earn certificates of completion for school courses

**NIMS** (National Institute of Metalworking Skills) certification

In addition to school course certificates, students have the opportunity to prepare for and take nationally-recognized portable certification tests which demonstrate validation of training competencies.
How we got started

ESL, CTE, and Assistant Principal participated in a CALPRO online course.

This is where our collaboration began.

One component of course was to write an Action Plan.
Program Name: *Simi Institute – Pilot for ESL Students / Machine Technology Career Tech Program*
IET Model Selected: *Alternating Teacher Model*

<table>
<thead>
<tr>
<th>Step #</th>
<th>Timeline (including concrete deadlines)</th>
<th>Action step</th>
<th>Person responsible (name and role)</th>
<th>Resources needed (including budget)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>April/May 2017</td>
<td>Needs assessment/survey: Survey students - to determine what programs they are interested in enrolling in Survey staff (instructors) to determine which programs have students who are struggling and whose students would benefit from IET</td>
<td>Assistant Principal</td>
<td>Time, Google Forms, Instructors to encourage / initiate students to take survey.</td>
</tr>
<tr>
<td>Date</td>
<td>Task Description</td>
<td>Role</td>
<td>Note</td>
<td></td>
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</tbody>
</table>
| April/May 2017 | Get authorization from admin to begin process of planning and implementing proposed IET program  
Be ready to provide rationale:  
WIOA  
IELCE (EL Civics) COAAPs  
- 2017 - 2108 school year will require establishing a link between IELCE instruction/ assessment and Career Pathways (243 funds) | Assistant Principal Principal | Keeping principal in planning loop and keep her apprised of WIOA expectations as demonstrated in WIOA application. |
Generate student interest

Take students on an “in-school” field trip to Machine Tech

Students meet the instructor who will:
- motivate them by discussing the potential for earning a good hourly wage in this field
- explain skills students will learn in the program
- encourage ELLs to enroll
Generate student interest:

Create and distribute flyers advertising your IET. If possible, have them translated into several languages.
Generate student interest:

Create and distribute flyers advertising your IET. If possible, have them translated into several languages.
Reach out

Get together with the counselors at your school

They need to know what you have to offer so that they can direct students to you
Inform yourself: CTE lectures

Before IET semester begins, attend CTE lectures to learn what students will be learning.

Administration approved some curriculum development hours so CTE and IET instructors could collaborate on preparations for the pilot IET class.
Preparing for the fall semester

Using the Basic Machine Shop course outline, wrote a course outline to be used for IET class

Ours is a general VESL course outline that could be used for future (non-Machine Tech) IET programs
Aligning curriculum

IET instructor created an IET syllabus for the IET class based on CTE syllabus.

CTE instructor gave feedback.

Schedule shows students which CTE units will be previewed, taught and reviewed each week.
<table>
<thead>
<tr>
<th>Course Calendar (Class Meetings):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuesdays – Room 606</strong></td>
<td><strong>Thursdays – Room 212</strong></td>
</tr>
<tr>
<td>6 PM – 9 PM</td>
<td>6 PM – 9 PM</td>
</tr>
<tr>
<td>CTE day lecture begins at 11 AM</td>
<td></td>
</tr>
<tr>
<td>CTE evening lecture begins at 6:30 PM</td>
<td></td>
</tr>
<tr>
<td><strong>Aug. 21, 2018</strong></td>
<td><strong>Aug. 23, 2018</strong></td>
</tr>
<tr>
<td>CTE – Unit 1</td>
<td>IET – Introduction to course</td>
</tr>
<tr>
<td></td>
<td>Review Unit 1</td>
</tr>
<tr>
<td></td>
<td>Preview Coordinate Systems</td>
</tr>
<tr>
<td><strong>Aug. 28, 2018</strong></td>
<td><strong>Aug. 30, 2018</strong></td>
</tr>
<tr>
<td>CTE – Coordinate Systems</td>
<td>IET – Preview Blueprint</td>
</tr>
<tr>
<td></td>
<td>Unit 2 and Unit 4</td>
</tr>
<tr>
<td><strong>Sept. 4</strong></td>
<td><strong>Sept. 6, 2018</strong></td>
</tr>
<tr>
<td>CTE – Blueprint Unit 2</td>
<td>IET – Preview Pythagoras</td>
</tr>
<tr>
<td>CTE – Blueprint Unit 4</td>
<td>Theorem</td>
</tr>
<tr>
<td><strong>Sept. 11, 2018</strong></td>
<td><strong>Sept. 13, 2018</strong></td>
</tr>
<tr>
<td>CTE – Pythagoras Theorem</td>
<td>IET – Preview Blueprint</td>
</tr>
<tr>
<td></td>
<td>Unit 3</td>
</tr>
</tbody>
</table>
Performance-based assessments: IELCE Objectives

CASAS COAAP 36.5 – Job safety
• CTE students must demonstrate understanding of workplace safety before operating machinery.

CASAS COAAP 33.7 – Preparing for the job interview
• CTE students prepare for employment in the manufacturing industry by creating a resume and describing job skills

CASAS COAAP 74.1 – Machine Tech language Skills (new in 2019)
• Assesses skills students learn in Basic Machine Shop class
OUR CURRENT MACHINE TECH IET
Our Machine Tech CTE has three main components:

- Lectures
- Projects
- Assessments
IET: preview / CTE: learn / IET: review

Thursdays students attend IET class.
• preview vocabulary and concepts that CTE instructor will discuss in his next lecture

The following Tuesday is the CTE lecture
• CTE instructor's lecture includes Power Point we previewed last Thursday

The following Thursday
• review previous Tuesday’s class, vocabulary quiz on previous week’s terms
• preview next week’s class – introduce new vocabulary & concepts
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NO LAB</td>
<td>OPEN LAB</td>
<td><strong>CTE lecture / IET support</strong></td>
<td>OPEN LAB</td>
<td><strong>IET class</strong>&lt;br&gt;Review&lt;br&gt;• Past Tuesday’s CTE lecture&lt;br&gt;• Vocab quiz on previous week’s vocab&lt;br&gt;<strong>Preview of next CTE class:</strong>&lt;br&gt;• Vocabulary &amp; Concepts&lt;br&gt;Communication skills such as:&lt;br&gt;• Pronunciation issues&lt;br&gt;• Asking for help &amp; for tools&lt;br&gt;• Asking instructor to check&lt;br&gt;<strong>Grammar:</strong>&lt;br&gt;Contextualized grammar&lt;br&gt;Example:&lt;br&gt;• Verb tenses&lt;br&gt;<strong>Preparing for oral presentation:</strong>&lt;br&gt;• Develop written &amp; oral skills</td>
<td>OPEN LAB</td>
<td>NO LAB</td>
</tr>
</tbody>
</table>

**Students attend weekly CTE lecture**

**Students work on Machine Shop projects & document their progress**

**OPEN LAB when lecture is finished**
Projects

In addition to lectures, students in the Basic Machine Shop class are required to complete 8 projects.
T Slot Cleaner
Bolt Gage
V Block
Indicator Holder
Tapping Center
Vise Stop
Projects

CTE instructor gives students instructions and a blueprint:

- Here is an example of **step-by-step instructions**
<table>
<thead>
<tr>
<th>SIGN</th>
<th>INSTRUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DO UNIT 1 &amp; 2 IN THE BLUEPRINT BOOK</td>
</tr>
<tr>
<td>2</td>
<td>DRAW THE BLOCK AND CLAMP</td>
</tr>
<tr>
<td>3</td>
<td>SAW MATERIAL, ONE PIECE 2 X 2&quot; ALUMINUM 2 1/2&quot; LONG AND ONE PIECE 3/8&quot; X 3&quot; 1018 STEEL 2 3/4&quot; LONG</td>
</tr>
<tr>
<td>4</td>
<td>WATCH THE LATHE DVD</td>
</tr>
<tr>
<td>5</td>
<td>GET LATHE DEMO, AND FACE BLOCK TO 2.625&quot; LONG</td>
</tr>
<tr>
<td>6</td>
<td>WATCH VERTICAL MILL DVD</td>
</tr>
<tr>
<td>7</td>
<td>DEMO ON VERTICAL MILL, GET THE RPM HANDOUT, MAKE THE RPM CALCULATIONS, &amp; SQUARE CLAMP TO 2.500&quot;</td>
</tr>
<tr>
<td>8</td>
<td>DEMO ON FLY-CUTTER, AND SQUAREING THE BLOCK TO 1.875&quot;</td>
</tr>
<tr>
<td>9</td>
<td>REVIEW LAYOUT TECHNIQUE</td>
</tr>
<tr>
<td>10</td>
<td>BLOCK AND CLAMP LAYOUT CHECK</td>
</tr>
<tr>
<td>11</td>
<td>EDGE FINDER DEMO</td>
</tr>
<tr>
<td>12</td>
<td>DRILL 1/8 HOLES AND CENTER DRILL THE CLAMP IN VERTICAL MILL</td>
</tr>
<tr>
<td>13</td>
<td>DEMO ON INDICATOR, INDICATE PART IN 4 JAW CHUCK</td>
</tr>
<tr>
<td>14</td>
<td>DRILL CLAMP IN SIZES: 1/8&quot; DRILL, 1/16&quot; DRILL AND 1/16&quot; DRILL</td>
</tr>
<tr>
<td>15</td>
<td>CALCULATING RPM USING THE BORE RECORD SHEET FOUND IN THE BACK OF THIS PRINT PACKAGE</td>
</tr>
<tr>
<td>16</td>
<td>DEMO ON BORING IN A LATHE AND INTERNAL MEASURING</td>
</tr>
<tr>
<td>17</td>
<td>BORED TO FINAL SIZE CHECK</td>
</tr>
<tr>
<td>18</td>
<td>CUT 45° ANGLES ON CLAMP IN VERTICAL BAND SAW</td>
</tr>
<tr>
<td>19</td>
<td>SETUP AND MILL THE 45° ANGLES</td>
</tr>
<tr>
<td>20</td>
<td>CUT CLAMP OPEN IN VERTICAL BAND SAW</td>
</tr>
<tr>
<td>21</td>
<td>KEY CUTTER DEMO</td>
</tr>
<tr>
<td>22</td>
<td>READ MACHINING FUNDAMENTALS 6.10 - 6.10.6</td>
</tr>
<tr>
<td>23</td>
<td>TAPPING DEMO</td>
</tr>
<tr>
<td>24</td>
<td>DO UNIT 14 IN THE BLUEPRINT BOOK</td>
</tr>
</tbody>
</table>

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*O. Lindskog, Simi Institute for Careers and Education*
Projects

- Here is the **blueprint** students must follow.
Projects

The CTE instructions can be overwhelming for ELLs.

- Students benefit from having instructions broken down and simplified into understandable units. Here is an example.
What is a V-Block?

A V-block is a square or rectangular steel block with a 90° V-groove through the center, provided with a clamp for holding round stock for drilling, milling, and laying out operations. (Look at the picture below to see how a V-block is used)
Click the link to see how a V-block is used: https://youtu.be/CGiR3D05-gI

Your V-block will look different than the ones shown above. Here is a picture of the V-block you will be making:
Parts of the V-block:

- Roll pin
- Pad
- Screw
- Clamp
- V-block
<table>
<thead>
<tr>
<th></th>
<th>Instructions</th>
<th>Materials / Equipment</th>
</tr>
</thead>
</table>
| 1 | Do Unit 1 in the Blueprint book - Drawings and Prints  
   Do Unit 2 in the Blueprint book - Visualizing Shapes | textbook                                |
| 2 | Draw the block and clamp.             | Graph paper, ruler, pencil             |
| 3 | Saw material.                         | Material: aluminum & 1018 steel        |
|   | One piece 2” x 2” Aluminum 2 ¾” long. | Machine needed: saw                    |
|   | And                                   |                                        |
|   | One piece ¾” x 3” 1018 Steel 2 ⅝” long |                                        |
| 4 | Watch the lathe DVD                   | VIDEO                                  |
| 5 | Get lathe demo                        | V-BLOCK DEMO                           |
|   | And                                   | Machine needed: lathe                  |
|   | Face Block to 2.625” long             | step 5 - “Click here to see a quick video on face milling: https://youtu.be/9OsNUi_o6C4 |
Related ESL / IET Curriculum
At the end of the semester, IET students are required to give an oral presentation on one of the projects they completed in the CTE class. This is a multi-step process.

- Here’s the [template](#) students are given to help them prepare.
For the career tech class, you will learn **technical skills** in the machine shop.

You will work on projects in the machine shop to build your technical skills.

In order to practice your **English skills**, you will describe how you completed one project.

You will practice your **English writing skills** by describing at least five steps in the process.

You will take pictures and/or videos to show what you did.

You will create a Google Slide presentation and insert these pictures and/or videos.

Then you will practice your **speaking skills**.

Eventually you will give an oral presentation.

Being able to describe what you did will help you in the future when you go for a job interview.

You will be able to tell the employer all the skills you have.

Being able to communicate is very important to your success.
As you complete the projects in the machine shop, document several steps by taking pictures and/or videos.

<table>
<thead>
<tr>
<th>Step 1: (write a brief title, then describe what you did first)</th>
<th>Step 1 (picture)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2: (write a brief title, then describe what you did next)</td>
<td>Step 2 (picture)</td>
</tr>
<tr>
<td>Step 3: (write a brief title, then describe what you did next)</td>
<td>Step 3 (picture)</td>
</tr>
<tr>
<td>Step 4: (write a brief title, then describe what you did next)</td>
<td>Step 4 (picture)</td>
</tr>
<tr>
<td>Step 5: (write a brief title, then describe what you did last)</td>
<td>Step 5 (picture)</td>
</tr>
</tbody>
</table>
Projects: Oral Presentation

- Here is an example of an oral presentation
SUCCESSES and CHALLENGES
Challenges

**Time required to complete course requirements:**
It takes time to learn all the technical material required to earn certificates. Students who have full time jobs might have difficulty making time in their busy schedules.

**Scheduling conflicts:**
Some students may choose to attend ESL classes in addition to IET/CTE class. This puts further demands on their time.

Although we have been flexible with the time requirements, some students still see this as a barrier to participating.
Successes: Our first graduate
Successes:

Assessments:
Students are taking and passing IET – related assessments (243 COAAPs)

Persistence
Several students have completed Basic Machine Shop CTE certificate and are currently working on the second certificate CNC class
Consider attending your program’s Advisory Board Meetings

Machine Tech’s advisory board meets about 4 times a year

Business owners and support services from our local area attend

You’ll get a first-hand glimpse into what companies are looking for in the employees they hire

Opportunities to network with others who can help build your program
As you plan, consider these things:

Surveying of students as to their level of interest in various CTE programs
Recruiting students / Communicating with school counseling staff
Course outline / Syllabus
Collaboration time
Data management
Funding
ESL teacher’s level of familiarity with curriculum
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