

## Ewan Middleton shares his career journey

Ewan Middleton, a dedicated Technological Education Technician at Ardrossan Academy, shares his career journey and the invaluable lessons he has learned through his professional career to date and his learning at SSERC. His unwavering commitment to continuous learning is a testament to his dedication to his profession and his desire to provide the best possible support to the teachers in his school and so to the benefit of learners.



I am a Technological Education Technician working at Ardrossan Academy in North Ayrshire. At the end of my second year, I can honestly say I have loved every minute of it.

My journey to becoming a Technological Education Technician started when I was a pupil at Garnock Community Campus. I knew early on in my school life that I wanted a skills-based job that involved working with people. I have always been a team player and wanted a career that would provide me with various experiences each day. I enjoyed working with people, and during my school years, I was involved in Scouts and the Columba 1400 Leadership programme. Both organisations are based on passing skills to the next generation. As a learner in school, I loved technical subjects and even went to work in another school's technical department as part of my S3 work experience. The practical skills gained in the design and technology department helped me to get a joinery apprenticeship, and so I left school at the end of S4 on my sixteenth birthday.

My apprenticeship was over four years with block release to college. During this time, I was able to experience everything the building trade had to offer. Even though my apprenticeship was in joinery, on a building site, the apprentice is expected to labour for electricians and plumbers, drive diggers, and erect scaffolding. While I enjoyed my apprenticeship, I wouldn't say that I liked the unpredictable nature of the building industry, so I looked for other career opportunities and applied for, and then was appointed as, a Technological Education Technician at Ardrossan Academy.

On a day-to-day basis, I maintain all the tools and

machinery in the Technical department. I also cut and prepare all materials for the teachers to use with their classes and order materials for the coming year. In addition, I carry out in-class support; this can be working one-on-one with pupil support or manning a pillar drill to free the teacher to help the rest of the class.

I was initially apprehensive about my new Technician role as I knew that certain aspects of technological education involved working with metal, plastic, and wood and associated processes. Through my apprenticeship and associated training, I was confident in most aspects linked to woodworking and associated tools and machinery; I did, however, have more limited experience with metalworking and plastics. My line manager told me the school was very keen to support my further development as a Technician, and so suggested that I should see that professional learning opportunities were available at SSERC.

Given the importance of health and safety when using workshop machinery, I applied for SSERC's Safe Use of Fixed Workshop Machinery professional learning course. This was a two-day course, SCQF Credit and Levelled and regarded as mandatory training to meet health and safety requirements. This course gave me the self-assurance to maintain and safely use the bandsaw, circular saw and planer thicknesser with confidence. This experience was really positive and rewarding; the SSERC team were very friendly and welcoming, and the course tutors were very approachable and supportive. Undoubtedly, this positive experience encouraged me to see that other development opportunities might be available.

In the last 18 months, I have successfully completed the following SSERC professional learning courses:

- **Welding**
- **Hot & Cold Metal Forming**
- **Woodturning**
- **Safe Use of Fixed Classroom Machinery and, most recently**
- **Centre Lathe Turning.**

One of the great things about attending SSERC professional learning is not only the new knowledge, skills, and self-confidence that are developed but also the artefacts that demonstrate the new skills you have gained. Some examples are provided below.

### **Safe Use of Workshop Machinery and Safe Use of Classroom Machinery**

Push stick and sharpening stone



### **Wood turning**

Plastic and wooded pens and a wooden bowl

I found this course very satisfying, and it helped me grow my confidence in using the lathe and tools when appropriate.



### **Welding course**

Hanging basket holder

I learned many skills that I had never done before, and if I asked the staff members any questions, they would answer anything at all; they were very helpful. We initially used off-cuts of metal to practice and get the hang of welding, as we all had no experience. Then, we made a hanging basket by folding-forming various components, welding them together, and filing the welds so they looked nice and finished.



### **Hot & Cold Metal Forming**

Wall-mounted wine rack and candle holder

We spent the day with a blacksmith for the hot metal forming and learned a lot of skills, knowing how long to keep what types of metal in the forge for how long and where is best to hit the metal, what to use and where to position the metal on the anvil as well. The cold forming was fun, too. We got to pick a model and form it using instructions on a sheet. We did get talked through how it all worked first before getting let free, and if we had any issues, Duncan and Chris were there as a helping hand as always.

### **Centre Lathe Turning**

Metal Scribe and Hammer

The most recent course was a two-day course held in an engineering workshop. It was designed to develop knowledge and understanding of the functions, machining operations, and safe use of this workshop machine and allow teaching and support staff to successfully and safely implement lathe-turning projects into the curriculum and /or deliver SQA-based coursework.

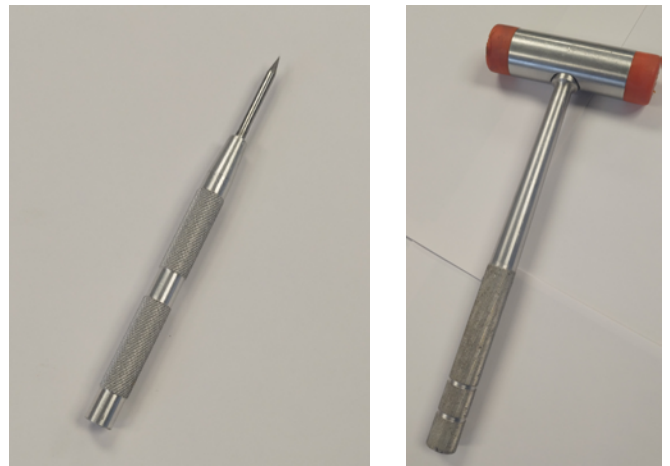
The course involved setting up and using a number of different types of tooling to perform facing, taper, parallel, knurling, threading, drilling and parting processes.

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The specific course outcomes were:

- Demonstrate safety precautions necessary for the safe operation of the centre lathe.
- Demonstrate how to set tools and prepare the centre lathe for safe use.
- Demonstrate how to operate the centre lathe to carry out the following basic functions safely.
  - Facing Off, Parallel turning, Taper turning, Drilling, Threading, Turning between centres, Parting, Knurling, Boring
- Demonstrate an understanding of tool grinding angles and cutting speeds.
- Demonstrate an understanding of work-holding methods

Like the other professional learning courses, you are always left with a relevant and useable artefact(s).



We started by turning a circular piece of aluminium. After safely securing the metal into the lathe, we faced one edge off. Then, we switched to taper turning the other edge, drilling a hole, and finishing by knurling and turning between centres. The final product was a scribe handle, and we glued the scribe piece into the section we drilled out.

The second piece we made was a hammer, which I learned much about as it required a few more steps than the scribe, such as threading. We also got to use the auto feed for the long taper. I also learned a lot of useful information about what cutting speeds are appropriate for what material and what you are doing, angles, what angles certain tools should be at and what angles to grind the tools at when sharpening them.

My experiences undertaking professional learning at SSERC have been very positive, and I would highly recommend this organisation as the go-to place for professional learning for school technicians and technology teachers.