Lesson Title: EPCglobal and ISO/IEC Item Management Standards

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Rationale

Why is this lesson important? Why does the student need this lesson? How does this lesson fit in the larger module?

EPCglobal, Inc., standardized a UHF passive RFID system for item management in the supply chain and then coordinated with the international community to create an international standard. The student needs this lesson to understand item management standards.

Objective(s)

What will the student know, be able to do, and value at the end of this lesson? This is smaller amounts of information than the module objectives.

The student will be able to recall the most common UHF passive RFID standard, identify the item management standards, and recall EPCglobal history.

Exploration

Explicit concepts related to the Module goal are explored. It is at this point that the student will be provided basic information about the topic and the chance to explore some basic concepts about the topic. This is where the instructor imparts information.

- EPCglobal, Inc.
  - Not-for-profit organization developing commercial, world-wide RFID standards
  - Joint venture between EAN International and the Uniform Code Council (UCC).
    - UCC standardized Universal Product Code (UPC) barcodes in US
    - EAN standardized barcodes in Europe
    - UCC and EAN combined to form GS1
  - http://www.epcglobalinc.org/
  - UHF Class-1 Generation-2 (Class1 Gen2 or commonly known as Gen2)
    - ISO/IEC 18000-6C standard
- Electronic Product Code (EPC) – 96-bit version
- EPCglobal, Inc. UHF Specification History
- ISO/IEC (International Standards Organization (ISO) and International Electrotechnical Commission) 18000 series
- EPCglobal, Inc., standards

Reflection

Several questions are posed to the student to answer and then often discuss as a class. This is an attempt to determine whether the student "gets" the basic concepts delivered above. If they do get it, move on to engagement. If they do not get it, go back to exploration above. It could be as simple as asking a few probing questions or as complex as asking the student to write a paper.
- What is GS1?
- What ISO/IEC standard is equivalent to Gen2?

**Engagement**

*Concepts learned in the Exploration are further developed by conducting experiments, designing and building solutions, and solving problems. This is an attempt to cause the student to apply the new knowledge. By applying the new knowledge, the student is much more likely to retain this information. This engagement could be accomplished through a debate, an experiment, a problem solving activity, or anything else that would cause the student to demonstrate understanding and competence.*

- Homework assignment

**Expansion**

*Provide opportunities for students to expand the concepts to more general or global situations including connection to the Module goal. Expand back to the big ideas of the module and prepare for the next lesson.*

- Why is it important to have standards?

**Lesson Assessment**

*Assess student understanding of the lesson content. This does not have to be a full-blown examination. It could be a graded homework assignment, a quiz, a performance examination, a graded problem solving activity, or something similar.*

- Homework assignment

**Equipment**

- None

**Software**

- None

**References**

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