## Research on Pre-Service Personnel Preparation

A meta-synthesis of high impact practices for preservice teacher professional preparation was prepared, for ECPC through a formal contract with Pucket Institute (Dunst et al, 2018), to inform institutes of higher education (IHE) on faculty-related practices that have been found to increase university student learning outcomes. A total of 130 studies were included in the meta-synthesis, with a combined total of 3 million+ study participants. Findings from this analysis contribute to the improvement of pre-service outcomes by providing evidence of seven high impact faculty instructional practices that can be embedded into IHE policy, programs and faculty instruction that prepare personnel who work with children birth-5 years old. Ultimately, early childhood (EC) and early intervention (EI) pre-service educators who experience a range of faculty instructional practices are more likely to use instructional strategies within their own EC/EI classrooms and with their students.

1. Student Field Experiences
2. Teaching Methods of Instruction
3. Clinical Supervision
4. Faculty Coaching & Instructional Practices
5. Course-Based Learning Practices
6. Web-Based & E-Learning Practices
7. Cooperative Learning Practices

### What is Web-Based and E-Learning Instruction? ❓

Web-Based and E-Learning Instruction is any instruction delivered over the internet whether instructor-assisted or self-guided. There are many types of Web-Based and E-Learning Instruction, such as:

**Virtual Reality Instruction** is a program using digital technology to imitate real life classrooms where student teachers can experience teaching in an interactive simulation.

**Computer-Assisted Instruction (CAI)** is a self-directed format for students to use technology allowing them to practice skills, solve problems and engage in tutorials.

**Information & Communication Technology Learning (ICT)** is the use of a variety of technology tools, such as internet browsers, electronic presentations, web pages and animation, to engage students in classroom instruction.

**Intelligent Tutoring Instruction** is a computer system designed to provide customized instruction and feedback to students.

**Technology-Assisted Instruction** is instruction that uses technology as the main feature used to deliver and present information to students.

**Internet-Based Instruction** is when course information is presented using only an internet platform such as Blackboard or Sakai.

## How Was it Measured?

Twenty-Eight meta-analyses were reviewed and resulted in the examination of six types of technology and e-learning instruction. The majority of studies compared the effects of technology instruction to traditional classroom instructional experiences on student outcomes.

## What Did the Research Find?

The results showed:

- Virtual reality, ICT, CAI, and intelligent tutoring had greater effect sizes than technology assisted and internet-based instruction.
- Technology-based instructional practices had a favorable advantage compared to traditional instruction.
- Students had higher belief appraisals with technology-assisted, internet-based and computer-assisted instruction.
- Positive student achievement with ICT; however, students reported lower student belief appraisals.
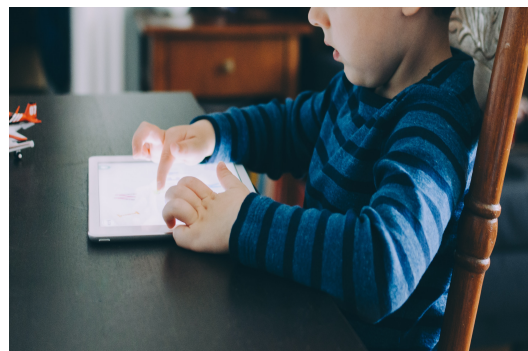
## How Pre-service Preparation Programs Can Use this Information

Pre-Service Preparation Programs can:

- Survey faculty regarding the types of technology used in coursework.
- Embed different types of technology to deliver and present coursework.
- Train IHE faculty to use virtual reality in the classroom to promote student practices of teaching strategies.

## References

Dunst, C., Hamby, D., Howse, R., Wilkie, H., & Annas, K. (2019). Metasynthesis of preservice professional preparation and teacher education research studies, *Education Sciences*, 9(50), 1-36.

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