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HIGHLIGHTED HANDOUT

EDUA430

Use of Information and Communication
Technology for Early Childhood Education

EDUA430 by VU Learning HUB

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EDUA430 - Use of Information and Communication Technology for Early Childhood Education

A structured study handout compiled from the course's lecture topics. Read each topic's objectives first, study the key concepts, then use the summary and examples for revision. 

EDUA430

Use of Information and Communication Technology for Early Childhood Education

Based on 45 lecture topics

Compiled for VU students as a structured study guide

*Concepts are summarized in the writer's own words;
use alongside your lecture videos for best results.*

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Course Introduction

Digital technology surrounds young children: they swipe before they write and video-call grandparents before they read. Early childhood educators can neither ignore this reality nor surrender to it - they need the judgment to use technology intentionally, where it genuinely serves young children's learning and development.

This course builds that judgment. It covers how young children interact with digital media, frameworks for evaluating educational technology, practical integration strategies across the ECE curriculum, and the critical issues: screen time, equity, data privacy, and protecting play.

The guiding principle throughout: technology is a tool in the educator's hands, never a replacement for human relationships, active play, and hands-on exploration - the irreplaceable foundations of early learning.

How to use this handout: Each topic lists its learning objectives, explains the key concepts in simple words, defines important terms, gives an example where helpful, and closes with a summary plus exam tips. Topics marked **Very important** deserve extra revision.

Unit 1: ICT and Young Children: Foundations

Topic 1: Children in a Digital World

Learning Objectives

- Describe young children's digital experiences
- Explain digital childhood
- Discuss educator responsibilities

Key Concepts

Today's young children are digital natives in experience if not understanding: most encounter touchscreens, videos, and video calls in infancy. Their digital lives span entertainment, communication with family, and increasingly learning content.

'Digital childhood' means development now unfolds partly through media: language from videos and calls, sociality through shared screens, play blending physical and digital (a child films block towers). Educators must understand this lived reality to connect with children.

Responsibility: neither moral panic nor uncritical embrace. Educators need evidence-based judgment about what helps, what harms, and what's merely hype - and the confidence to guide families asking the same questions.

Key Points

- Young children's lives are already digital; educators must understand this.
- Development unfolds partly through media.
- Educators need evidence-based judgment, not panic or hype.

Key Terms

Digital native: A person raised with digital technology (used loosely for children).

Digital childhood: Childhood experienced partly through digital media.

Media mentor: An adult guiding children's healthy media use.

Example

- *A 3-year-old video-calling grandparents practices language and social skills.*

Summary: Digital childhood is real; educators must engage it thoughtfully.

Exam Tips

- ★ Key point: the balanced stance.
- ★ Remember media mentor concept.

Topic 2: How Young Children Learn with Technology

Learning Objectives

- Explain learning mechanisms with tech
- Discuss age-related capabilities
- Apply developmental theory

Key Concepts

Young children learn from technology through the same mechanisms as always: active engagement, social interaction, and meaningful contexts. Interactive content that responds contingently (like a responsive adult) teaches more than passive video - the 'video deficit' shows toddlers learn less from screens than live people.

Age capabilities: under 2s need human interaction overwhelmingly; 2-5s can learn from well-designed interactive media with adult co-use; older preschoolers create with technology (photos, recordings, simple coding toys).

Theory links: Vygotsky's scaffolding applies - technology scaffolds best with adult mediation; Piaget reminds us concrete manipulation precedes abstract symbols - touchscreens shouldn't replace blocks and sand.

Key Points

- Contingent interactivity teaches; passive viewing teaches little.
- Adult co-use multiplies learning from media.
- Concrete play foundations must come first.

Key Terms

Video deficit: Toddlers learning less from video than live interaction.

Contingent interactivity: Responses dependent on the child's actions.

Co-use: Adult and child engaging with media together.

Example

- *A video-chat conversation teaches language: solo cartoon watching teaches little.*

Summary: Technology teaches young children when it's interactive and socially mediated.

Exam Tips

- ★ Very important: the video deficit.
- ★ Remember contingent interactivity.

Topic 3: Screen Time: Evidence and Guidelines

Learning Objectives

- Summarize screen-time research
- State major guidelines
- Advise families appropriately

Key Concepts

Research: heavy screen time associates with less sleep, less physical activity, less parent-child talk, and weaker language outcomes - but content and context matter enormously; the displacement hypothesis (screens replacing better activities) explains most harms.

Guidelines (WHO, AAP): under 18 months avoid screens except video calls; 18 months-5 years limit to ~1 hour of high-quality content with co-viewing; keep screens out of bedrooms and mealtimes; prioritize sleep, active play, and interaction.

Educator role: share guidelines without shaming; understand family realities (screens as respite for exhausted parents); model balanced use; and ensure school screen time is high-quality and limited.

Key Points

- Displacement explains most screen harms; content and context matter.
- WHO/AAP: minimal under 18 months; ~1 hour quality co-viewed for 2-5s.
- Guide families without shaming; model balance.

Key Terms

Displacement hypothesis: Screens harm by replacing better activities.

Co-viewing: Watching together with discussion.

WHO guidelines: World Health Organization screen-time recommendations.

Example

- *An hour of video calls with grandparents differs utterly from an hour of solo cartoons.*

Summary: What screens replace matters more than screen minutes alone.

Exam Tips

- ★ Very important: WHO/AAP age guidelines.
- ★ Remember displacement hypothesis.

Topic 4: Frameworks for Technology Integration

Learning Objectives

- Explain TPACK
- Explain SAMR
- Apply frameworks to ECE planning

Key Concepts

TPACK: effective teaching with technology blends Technological, Pedagogical, and Content Knowledge - knowing tools isn't enough; teachers need techno-pedagogy for early childhood specifically (e.g. using tablets for documentation within play-based pedagogy).

SAMR describes use levels: Substitution (digital worksheet for paper), Augmentation (with improvements), Modification (redesigned tasks), Redefinition (impossible-without-tech tasks, like video-linking with another country's kindergarten). Aim beyond substitution.

ECE-specific: NAEYC/Fred Rogers Center guidance - technology should be active, hands-on, engaging, and empowering; used intentionally to support learning goals within relationships and play, never as reward, babysitter, or drill.

Key Points

- TPACK: blend technology, pedagogy, and content knowledge.
- SAMR: climb from substitution to redefinition.
- NAEYC: active, intentional, relationship-centered use.

Key Terms

TPACK: Technological Pedagogical Content Knowledge.

SAMR: Substitution, Augmentation, Modification, Redefinition.

Intentional use: Technology chosen for clear learning purposes.

Example

- *Photoaraphina block structures for a class book: modification level.*

Summary: Frameworks turn gadget use into pedagogical decisions.

Exam Tips

- ★ Key point: TPACK components and SAMR levels.
- ★ Remember NAEYC principles.

Topic 5: Evaluating Educational Apps and Media

Learning Objectives

- Critique 'educational' claims
- Apply evaluation criteria
- Select quality resources

Key Concepts

'Educational' is an unregulated marketing label: most apps labeled educational lack any learning science, featuring instead distracting rewards, rote drill, or ads. Educators must evaluate, not trust labels.

Criteria: clear learning goals; active minds-on engagement (not just tapping); meaningful feedback; no ads or manipulative design; age-appropriate; supports co-use; cultural relevance; accessibility; privacy-respecting. Trusted review sources (Common Sense Media) help.

Selection process: try it yourself first; check alignment with curriculum goals; pilot with children observing engagement and learning; prefer open-ended creative tools over drill apps.

Key Points

- 'Educational' labels are marketing, not evidence.
- Evaluate: goals, engagement, feedback, ads, privacy, co-use.
- Prefer creative tools over drill apps.

Key Terms

Learning science: Research on how people learn.

Manipulative design: Tricks exploiting children's psychology.

Open-ended tools: Apps enabling creation, not just consumption.

Example

- *A drawing app enabling storytelling beats a letter-tracing drill app.*

Summary: Evaluate apps like curriculum - skeptically and pedagogically.

Exam Tips

- ★ Key point: evaluation criteria list.
- ★ Remember the marketing-label warning.

Unit 2: ICT Across the ECE Curriculum

Topic 6: ICT for Language and Literacy

Learning Objectives

- Describe tech-supported literacy
- Explain e-book best practices
- Discuss multilingual support

Key Concepts

Technology supports early literacy: e-books with read-aloud and word highlighting; storytelling apps where children record narratives; digital drawing with labels; video calls building oral language.

E-book best practices: choose enhanced e-books carefully - interactive hotspots can distract from story comprehension; co-reading with discussion beats solo tapping; print books still excel for deep engagement. Use both.

Multilingual support: translation apps, multilingual e-books, home-language recordings by families - technology can honor linguistic diversity practically, letting children hear stories in mother tongues.

Key Points

- E-books, storytelling recordings, and calls build language.
- Co-read e-books; avoid distracting hotspots.
- Tech can deliver mother-tongue content practically.

Key Terms

E-book: Electronic book, often with multimedia features.

Dialogic reading: Interactive read-aloud with questions.

Digital storytelling: Children creating narrated stories with media.

Example

- *Children record voiceovers for their drawn stories - writing before writing.*

Summary: Technology amplifies language learning when socially used.

Exam Tips

★ Key point: e-book cautions. 

★ Remember multilingual uses.

Topic 7: ICT for Early Mathematics and Science

Learning Objectives

- Describe math/science tech uses
- Explain virtual manipulatives
- Balance digital and concrete

Key Concepts

Math: quality apps build number sense through interactive representations; but virtual manipulatives complement - never replace - physical ones, since young children need concrete handling first. Use tech to extend: photographing patterns, recording counting, graphing with simple tools.

Science: digital microscopes reveal hidden worlds; time-lapse videos show plant growth; nature apps identify birds on walks - technology as a scientific instrument, motivating observation and questioning.

Balance rule: concrete first, digital to extend and document. A child who sorted real leaves then photographs and sorts the photos learns doubly.

Key Points

- Virtual manipulatives extend but don't replace concrete ones.
- Tech as scientific instrument: microscopes, time-lapse, nature apps.
- Concrete first, digital to extend and document.

Key Terms

Virtual manipulative: Digital interactive math object.

Number sense: Intuitive understanding of numbers.

Inquiry: Learning through questioning and investigating.

Example

- *A digital microscope turns playaround finds into science investigations.*

Summary: Technology extends little scientists' and mathematicians' reach.

Exam Tips

- ★ Key point: concrete-first balance.
- ★ Remember tech-as-instrument.

Topic 8: ICT for Creativity and the Arts

Learning Objectives

- Describe creative technology uses
- Explain digital art guidelines
- Discuss music and media creation

Key Concepts

Creative tools: drawing/painting apps, stop-motion animation with clay figures, music-making apps, photography projects - technology as expressive medium, not consumption device. Children's digital

creations deserve display like other art.

Guidelines: process over product (exploration matters); combine digital and traditional (draw on paper, animate digitally); teach basic media literacy even in creation ('whose photo is this?'); limit 'filter' culture - value authentic expression.

Documentation angle: children's photos and recordings become portfolios and class books - technology capturing learning for reflection and family sharing.

Key Points

- Tech as expressive medium: art, animation, music, photography.
- Process over product; blend digital and traditional.
- Children's digital creations deserve display.

Key Terms

Stop-motion animation: Frame-by-frame animation of physical objects.

Media literacy: Critical understanding of media.

Digital portfolio: Collected digital evidence of learning.

Example

- *Children animate clay animals frame-by-frame, narrating the story.*

Summary: Young children can be media makers, not just consumers.

Exam Tips

- ★ Key point: creation vs. consumption.
- ★ Remember process over product.

Topic 9: Assistive Technology in Early Inclusion

Learning Objectives

- Define assistive technology
- List ECE examples
- Explain inclusive tech planning

Key Concepts

Assistive technology (AT) helps children with disabilities participate: text-to-speech for emerging readers, visual schedule apps for autistic children, switch-adapted toys for motor difficulties, hearing-loop and captioning supports, communication boards and simple AAC apps.

Universal design: many AT features help all children - captions aid language learners, visual timers help everyone transition. Plan tech inclusively from the start rather than retrofitting.

Implementation: assess individual needs with specialists and families; train staff; ensure AT doesn't isolate (use within group activities); low-tech solutions (picture cards) often beat high-tech - choose the simplest effective tool.

Key Points

- AT enables participation: speech, visual, motor, communication supports.
- Universal design: AT features help everyone.
- Simplest effective tool; use within group life.

Key Terms

Assistive technology: Tools supporting people with disabilities.

AAC: Augmentative and Alternative Communication.

Universal design: Design usable by all from the start.

Example

- *A visual timer app eases transitions for the whole class.*

Summary: Technology can open classroom doors for every child.

Exam Tips

- ★ Key point: AT examples.
- ★ Remember universal design benefit.

Topic 10: Documenting Learning with ICT

Learning Objectives

- Explain pedagogical documentation
- Describe digital tools
- Discuss sharing with families

Key Concepts

Pedagogical documentation (Reggio-inspired): capturing learning through photos, videos, quotes, and work samples to make thinking visible - for reflection, planning, and assessment. Digital tools make this fast: tablets for instant capture, apps organizing portfolios.

Practices: photograph key moments with children's words attached; review documentation with children (metacognition!); use it in planning meetings; build digital portfolios showing growth.

Family sharing: apps and digital displays connect families to classroom life - powerful for engagement. But respect privacy: consent for photos, secure platforms, no public social media posting of children.

Key Points

- Document learning digitally: capture, reflect, plan, assess.
- Review documentation with children - builds metacognition.
- Share with families securely; consent and privacy first.

Key Terms

Pedagogical documentation: Making learning visible for reflection.

Metacognition: Thinking about one's own thinking.

Digital portfolio: Organized digital learning evidence.

Example

- *A teacher's photo series with quotes shows a project's thinking journey.*

Summary: Cameras and portfolios make early learning visible and shareable.

Exam Tips

- ★ Key point: documentation purposes.
- ★ Remember privacy rules.

Unit 3: Critical Issues

Topic 11: Protecting Play in Digital Classrooms

Learning Objectives

- Explain tech-play tensions
- Describe balanced schedules
- Advocate for play

Key Concepts

The core tension: every screen minute can displace active, social, sensory play - the proven foundation. Technology in ECE must earn its place by serving play, not substituting for it.

Balance strategies: tech stations as one choice among many (not the magnet); time limits; tech integrated into play themes (a 'veterinary clinic' with a tablet for patient records); outdoor and messy play protected as non-negotiable.

Advocacy: educators explain to parents and administrators why play comes first, using research. A classroom where children choose blocks over tablets most of the time is succeeding.

Key Points

- Technology must serve play, never substitute for it.
- One choice among many; protect outdoor and sensory play.
- Educators advocate play-first with research.

Key Terms

Active play: Physical, self-directed play.

Digital play: Play mediated by technology.

Play-based pedagogy: Teaching through play.

Example

- *Tablets for 'patient records' inside dramatic-play clinic - tech serving play.*

Summary: Play stays the curriculum; technology is a guest in it.

Exam Tips

- ★ Very important: the displacement principle.
- ★ Remember integration examples.

Topic 12: Digital Equity and the Divide

Learning Objectives

- Describe digital divides
- Explain equity strategies
- Discuss low-resource innovation

Key Concepts

Divides are multiple: access (devices, internet), quality of use (creative vs. passive), and adult mediation (who guides). Affluent children often get creative, mentored tech use; poor children get passive

consumption - a new dimension of inequality.

Equity strategies: school provision of quality tech experiences for all; community access points; low-cost solutions (one tablet per class used well beats 1:1 wasted); offline-first content for low-connectivity areas.

Low-resource innovation: shared devices, teacher's phone as documentation tool, radio/TV educational programs, and SMS parent-engagement - ICT broadly defined, not just tablets.

Key Points

- Divides: access, quality of use, and mediation.
- One device used well beats many wasted.
- Broad ICT: radio, SMS, shared devices count.

Key Terms

Digital divide: Unequal technology access and use.

1:1 programs: One device per child initiatives.

Offline-first: Content working without internet.

Example

- *A teacher's single phone documents learning and messages parents - high impact. low cost.*

Summary: Equity means quality tech experiences for every child, by any fitting means.

Exam Tips

- ★ Key point: the three divides.
- ★ Remember low-resource strategies.

Topic 13: Online Safety and Data Privacy for Young Children

Learning Objectives

- Identify safety risks
- Explain privacy obligations
- Establish classroom safeguards

Key Concepts

Risks: inappropriate content, manipulative advertising, data collection by 'free' apps (children's data is heavily harvested), and contact risks on connected devices. Young children cannot assess these.

Privacy obligations: children's data deserves maximum protection - read app privacy policies (most harvest data); prefer apps with child-privacy certifications; never post identifiable children publicly; secure devices and accounts.

Classroom safeguards: whitelisted apps only, no open browsers, supervised use, ad-free paid versions where possible, photo consent systems, and teaching early safety habits ('ask a grown-up'). Advocate institution-level policies.

Key Points

- Risks: content, ads, data harvesting, contact.
- Protect data: vet apps, secure devices, no public posting.
- Whitelists, supervision, and consent systems.

Key Terms

Data harvesting: Collecting user data, often for advertising.

Whitelist: Pre-approved list of allowed apps/sites.

Informed consent: Permission based on understanding.

Example

- A 'free' phonics app sending location data - why vetting matters.

Summary: Young children need adults as their privacy shield.

Exam Tips

- ★ Very important: data harvesting risk.
- ★ Remember safeguard list.

Topic 14: Working with Families on Technology

Learning Objectives

- Explain family partnership on tech
- Address difficult conversations
- Provide practical resources

Key Concepts

Families control most of children's screen time; educators influence it through partnership. Share: guidelines simply, quality content recommendations, co-use ideas, and screen-free family activity suggestions - as support, not judgment.

Difficult conversations: excessive screen time concerns, inappropriate content exposure, or device-related behavior issues. Approach with empathy, curiosity about family pressures, and concrete alternatives - never blame.

Resources: family media agreements, curated app lists, library programs, and workshops (evenings, with childcare). Model balanced tech use in all communications.

Key Points

- Partner with families: guidelines, recommendations, co-use ideas.
- Difficult conversations need empathy and alternatives.
- Provide concrete resources, not just warnings.

Key Terms

Family media agreement: Household rules for media use.

Technoference: Technology interfering with parent-child interaction.

Co-viewing: Shared media engagement.

Example

- A 'screen-free Saturday' challenge with classroom celebration.

Summary: Families and educators co-mentor children's digital lives.

Exam Tips

- ★ Key point: empathy in difficult conversations.

★ Remember concrete resources. 

Topic 15: Teacher Digital Competence

Learning Objectives

- Define educator tech competence
- Describe development pathways
- Discuss institutional support

Key Concepts

Educator competence spans: operational skills (using devices/apps), pedagogical integration (TPACK in ECE), critical evaluation (vetting resources), safety/privacy management, and family guidance - plus modeling balanced personal use.

Development: hands-on workshops (play with the tools!), peer mentoring, professional learning communities sharing practices, and trying small pilots. Fear of technology fades with supported experimentation.

Institutional support needed: reliable devices and internet, technical troubleshooting help, time for learning, clear policies, and leadership that values thoughtful integration over gadget counts.

Key Points

- Competence: operational, pedagogical, critical, safety, mentoring.
- Learn by supported hands-on experimentation.
- Institutions must provide tools, time, and policies.

Key Terms

Digital competence: Confident, critical technology use.

Professional learning community: Peers learning together.

Techno-pedagogy: Pedagogy integrating technology.

Example

- *Teachers trvina stop-motion themselves before teachina children.*

Summary: Confident educators make technology serve children.

Exam Tips

- ★ Key point: competence dimensions.
- ★ Remember hands-on learning.

Unit 4: Practice and Futures

Topic 16: Planning Technology-Integrated Activities

Learning Objectives

- Write tech-integrated lesson plans
- Align tech with learning goals
- Evaluate activity outcomes

Key Concepts

Planning formula: start with the learning goal (not the gadget), choose technology that serves it, plan adult roles (modeling, co-using, questioning), prepare the environment, and define success indicators.

Example plan: goal - oral narrative skills; activity - children photograph playground insects, sequence photos, record narrated stories; adult - models sequencing language, asks extending questions; assessment - story recordings showing sequence vocabulary.

Evaluate: did technology add value beyond non-tech alternatives? (SAMR check), were children active creators?, what would you change? Keep a portfolio of successful integrations.

Key Points

- Goal first, gadget second; plan adult roles explicitly.
- Define success indicators and assess.
- SAMR-check: did tech add real value?

Key Terms

Learning goal: The intended outcome.

Adult mediation: The educator's guiding role.

Success indicator: Observable evidence of achievement.

Example

- *Photo-sequencing insects for narrative skills - tech serving a goal.*

Summary: Plan technology like any pedagogy: goals, roles, evidence.

Exam Tips

- ★ Key point: the planning formula.
- ★ Remember goal-first.

Topic 17: Coding and Computational Thinking in ECE

Learning Objectives

- Define computational thinking for young children
- Describe unplugged and plugged activities
- Address appropriateness debates

Key Concepts

Computational thinking for young children means sequencing, patterns, debugging ('why didn't it work?'), and problem decomposition - developable without screens through unplugged activities: giving precise instructions, pattern games, and programmable floor robots (Bee-Bots).

Plugged options: simple coding apps and robot toys for older preschoolers - best with adult co-play, in short sessions, connected to real play themes.

Debate: critics warn coding hype pushes academics down; supporters note CT is thinking, not vocational training. Resolution: integrate playfully and lightly - computational thinking as one more way to play with ideas, never a drill subject.

Key Points

- CT for ECE: sequencing, patterns, debugging, decomposition.
- Unplugged first; robots and apps as playful extensions.

- Playful integration, never drill.

Key Terms

Computational thinking: Problem-solving with computing concepts.

Unplugged activities: Computing ideas without devices.

Bee-Bot: A programmable floor robot for young children.

Example

- *Children program a Bee-Bot to visit letter cards - sequencing in play.*

Summary: Little children can think computationally through play.

Exam Tips

- ★ Key point: unplugged vs. plugged.
- ★ Remember the debate resolution.

Topic 18: ICT in ECE Teacher Education

Learning Objectives

- Describe pre-service tech preparation
- Explain modeling in training
- Discuss ongoing development

Key Concepts

Teacher education must model what it preaches: trainees experiencing technology-integrated, play-based methods themselves; creating digital portfolios; practicing documentation; and critically evaluating apps - not just lectures about technology.

Field practice: place trainees where good integration happens; assignments requiring tech-integrated activity design and reflection; mentors who model balanced use.

Ongoing: technology changes fast, so in-service learning matters more than initial training - professional communities, micro-credentials, and classroom-based coaching keep educators current without overwhelming them.

Key Points

- Train teachers with the methods they'll use.
- Field practice in well-integrated settings.
- Continuous learning beats one-time training.

Key Terms

Pre-service education: Training before becoming a teacher.

In-service learning: Professional development while teaching.

Micro-credential: Short certified skill recognition.

Example

- *Trainees building digital portfolios of their own learning.*

Summary: Prepare educators by immersion, then sustain them continuously.

Exam Tips

★ Key point: modeling principle. ☰

★ Remember continuous learning.

Topic 19: Research and Evidence in ECE Technology

Learning Objectives

- Summarize what research shows
- Identify gaps
- Use evidence critically

Key Concepts

What we know: co-use and interactivity drive benefits; displacement drives harms; e-books can support literacy with adult mediation; creative tools show promise; drill apps show weak transfer. Quality of use dominates quantity debates.

Gaps: long-term effects of new media (tablets are young), Global South contexts under-researched, most studies on affluent Western children, and industry-funded research bias.

Critical use: ask who funded it, what was compared, which children, and whether outcomes matter. Practitioner inquiry - studying your own classroom's tech use - generates the most actionable local evidence.

Key Points

- Quality of use dominates; co-use and interactivity help.
- Gaps: long-term, Global South, funding bias.
- Read critically; inquire locally.

Key Terms

Evidence-based practice: Decisions grounded in research.

Funding bias: Results skewed by sponsor interests.

Practitioner inquiry: Teachers researching their practice.

Example

- *A study funded by an app company finding its app 'effective' - read skeptically.*

Summary: Use research as a flashlight, not a verdict.

Exam Tips

- ★ Key point: quality-over-quantity finding.
- ★ Remember critical reading questions.

Topic 20: Future Directions: AI, Equity, and Wisdom

Learning Objectives

- Survey emerging technologies
- Discuss AI in ECE
- Affirm enduring principles

Key Concepts

Emerging: AI tutors and story companions, AR bringing stories to life, learning analytics dashboards, and translation AI bridging language gaps. Each offers possibilities and perils - AI companions raise questions about human relationship primacy.

AI in ECE cautions: young children anthropomorphize readily; data harvesting risks intensify; 'personalized' drill at scale threatens play. Use AI, if at all, as an assistant to educators - never a child-minder.

Enduring principles for any future: relationships first, play as foundation, equity as goal, evidence over hype, and educator judgment as the irreplaceable core. Technology changes; good early childhood education's heart doesn't.

Key Points

- AI/AR/analytics offer possibilities with real perils.
- AI assists educators; never replaces human relationships.
- Enduring: relationships, play, equity, evidence, judgment.

Key Terms

AI tutor: Artificial intelligence teaching software.

AR: Augmented Reality: digital overlays on the real world.

Learning analytics: Data analysis of learning patterns.

Example

- *An AR app making a storybook dragon appear - wonder. then discussion.*

Summary: Future tools change; the heart of ECE doesn't.

Exam Tips

- ★ Key point: AI cautions.
- ★ Remember enduring principles.

Glossary of Key Terms

TPACK: Technological Pedagogical Content Knowledge.

SAMR: Substitution, Augmentation, Modification, Redefinition.

Co-use: Adult and child engaging with technology together.

Video deficit: Toddlers learning less from video than live interaction.

Displacement hypothesis: Screens harm by replacing better activities.

Digital divide: Unequal technology access and use.

Assistive technology: Tools supporting participation of children with disabilities.

Pedagogical documentation: Making learning visible through captured evidence.

Computational thinking: Sequencing, patterns, debugging, decomposition in problem-solving.

Unplugged activities: Computing concepts taught without devices.

Data harvesting: Collecting user data, often for advertising.

Media mentor: An adult guiding children's healthy media use.

Play-based pedagogy: Teaching through children's play.

Evidence-based practice: Decisions grounded in research findings.

AI tutor: Artificial intelligence software for teaching.