ICEL - Key Domains of Learning

I	**Instruction**	Instruction is **how the curriculum is taught** and can vary in many ways including: **level of Instruction**, **rate of Instruction**, and **presentation of Instruction**.

Ideas for Universal Design

Increase academic vocabulary through a variety of content texts, illustrations, charts, and diagrams. Provide learning goals in varying levels of difficulty. Provide response guides as scaffolds during instructional conversations, teacher to student discussions, and student to student discussions. Use project based learning with options for activities, team membership, and team roles. Use manipulatives and simulations to demonstrate concepts. Provide options for representation through leveled texts in a variety of formats and media. Provide options for expression and demonstration of knowledge (verbal, graphics, presentations, audio, products), provide question and answer guides for peer support learning.

C	**Curriculum**	Curriculum refers to **what is taught**. Curriculum would include **scope, sequencing, pacing, materials, rigor, format, relevance**.

Ideas for Universal Design

Use bridge activities to transition from one unit to another. Try a spiral scope and sequence to support varying levels of understanding. Use personalized pacing schedules. Provide educational materials in a variety of formats and media to ensure accessibility by all students. Provide options for engagement to increase rigor and relevance through academic choice. Provide mastery and skill rubrics in a variety of formats and languages. Give students tools to self-progress monitor.

E	**Environment**	The environment is **where the instruction takes place**. Variables in the environment include classroom **expectations, beliefs/attitudes, peers, school culture, facilities, class size, attendance/tardiness, management**.

Ideas for Universal Design

Ensure that the rules, attitudes, and rituals of the school include respect for the diversity within the student population. Provide schedule and routine guides in different media, formats, and languages. Prepare to adjust schedules to accommodate changes (e.g. students, instructional units, teacher). Provide rules and guidelines in different media, formats, and languages. Model and practice expected behaviors for students who need this level of support. Use flexible instructional schedules and routines to help students re-engage after being absent. Use peer learning groups to provide support for students after being absent. Provide students tools to self-monitor feelings, attitudes, and behaviors.

L	**Learner**	The learner is **who is being taught**. This is the last domain that is considered and is only addressed when the curriculum and instruction are found to appropriate and the environment accommodating. Variables include **motivation, prerequisite skills, organization/study habits, abilities, impairments, and history of instruction**.

Ideas for Universal Design

Provide a variety of tools to enable students with varying cognitive, emotional, physical, and sensory abilities to develop and organize plans for learning, set learning goals, and demonstrate persistence to achieve those goals. Use skill rubrics to help set attainable goals for each student based on student strengths. Provide diverse levels of formative assessments. Support students in the selection, acquisition, and use of assistive technologies and accommodations so they will have ownership in what they use. Provide resources, tools, and options in a variety of areas such as; presentation format, comprehension, listening, following directions, task and materials management, responding. Ensure that the classroom arrangement, furniture, technologies, educational materials, and science lab materials are accessible for all students.

I	**Instruction**	Instruction is **how the curriculum is taught** and can vary in many ways including: **level of Instruction**, **rate of Instruction**, and **presentation of Instruction**.

- **Use of academic language and vocabulary**
  - Language and vocabulary that includes the 50,000 words students are expected to know by the end of high school; including things like illustration and chart literacy, general speaking skills, and curriculum specific grammar and genres.
  - 8 Strategies for Teaching Academic Language - https://www.edutopia.org/blog/8-strategies-teaching-academic-language-todd-finley
  - *Options for Flexibility* – Provide a variety of content texts, allow students to share what they know using a variety of media (illustrations, charts, diagrams, slides, speaking).
- **Clear learning goals and intentions**
  - Instruction should include clear learning goals and learning intentions to guide teachers and students. When the class includes students with a diverse range of skills and abilities the goals should be written in varying levels of difficulty.
  - Clear Learning Goals - http://www.marzanocenter.com/blog/article/clear-learning-goals-set-students-up-for-success-part-1/
  - Learning Intentions - http://www.assessmentforlearning.edu.au/professional_learning/learning_intentions/learning_intentions_landing_page.html
  - Writing Learning Objectives - http://www.bu.edu/cme/forms/RSS_forms/tips_for_writing_objectives.pdf
  - *Options for Flexibility* – Provide goals in varying levels of difficulty and in different media.
- **Use of instructional questions and instructional conversations to gain meaning**
  - Questions can be used as an instructional tool to help students process information at various levels of understanding. When used student to student, instructional questions can build peer support learning.
  - Asking Questions to Improve Learning - https://teachingcenter.wustl.edu/resources/teaching-methods/participation/asking-questions-to-improve-learning/
  - *Options for Flexibility* – Provide students time to process answers, provide options for answering (verbal, diagrams), provide question and answer guides for peer support learning.
- **Instructional relevance – project based learning**
  - Solving problems can quickly increase the relevance of an instructional activity. Solving problems with other students through project based learning increases relevance and incorporates 21st century skills (teamwork, research gathering, information synthesis).
  - Why is Project-Based Learning Important? - https://www.edutopia.org/project-based-learning-guide-importance

- *Options for Flexibility* – Provide options for projects that address the grade level standards, provide options on information research, provide learning scaffolding through peer interactions, provide options for roles in teamwork.

- **Differentiating instructional techniques**
  - Instruction includes the content, process, products, and learning environment. Differentiation can be provided in these areas to meet the needs of a diverse classroom.
  - What is Differentiated Instruction? - http://www.readingrockets.org/article/what-differentiated-instruction
  - *Options for Flexibility* – Provide leveled texts, present information in a variety of formats, use manipulatives and simulations to demonstrate concepts, provide options for demonstrating knowledge, provide a variety of work and study environments in the classroom.
- **Universal design for learning**
  - Create instructional activities and lesson plans based on universal design for learning principles.
  - What is UDL? - http://www.udlcenter.org/aboutudl/whatisudl
  - Learn about the UDL principles - http://www.udlcenter.org/aboutudl/whatisudl/3principles
  - *Options for Flexibility* – Provide curriculum content in different media and leveled text, provide choices on how students demonstrate what they have learned (e.g. reports, presentations, graphics, products), allow student work to reflect personal relevance, culture, subjectivity, and background knowledge.
- **Small group instruction**
  - The use of small group instruction can help students build task persistence, instructional stamina, and independent learning skills. It also provides the teacher with opportunities to focus on struggling students.
  - Small Group Instruction as a Differentiating Instruction Strategy: 4 Tips to Remember - http://www.dreambox.com/blog/small-group-instruction-as-a-differentiating-instruction-strategy-4-tips-to-remember
  - Grouping Students Who Struggle with Reading - http://www.readingrockets.org/article/grouping-students-who-struggle-reading
  - *Options for Flexibility* – Provide opportunities to work in different groups, provide guidelines for group activities in a variety of formats, provide options in formative assessments
- **Cooperative/peer based learning**
  - Cooperative learning and peer tutoring provide a variety of options for students to work together, build learning relationships, practice 21st century skills, and develop appropriate academic behaviors.
  - The Why and How of Collaborative Learning - http://www.peertutoringresource.org/2016/03/the-why-and-how-of-collaborative-learning/
  - Using Peer Tutoring to Facilitate Access - http://www.readingrockets.org/article/using-peer-tutoring-facilitate-access
  - *Options for Flexibility* – Provide options for collaborative discussion, provide guidelines in a variety of formats.

- **Provide a variety of practice and application activities**
    - Students need opportunities to practice new skills, increasing their understanding of the skill as well as increasing the fluency or automation. High fluency in any skill lends itself to higher order thinking and creativity in skill application.
    - The Science Behind How We Learn New Skills - https://lifehacker.com/the-science-behind-how-we-learn-new-skills-908488422
    - Top 10 Strategies for Learning New Skills - https://zapier.com/blog/learning-new-skills/
    - *Options for Flexibility* – Provide options for relevance, provide options for practice, provide options for time-on-task.
- **Allowable repetition for mastery and understanding**
    - Repeated practice of new skills is essential for mastery and understanding. With repetition, students have opportunities to move through the four phases of the learning cycle: anxiety, learning, comfort, and teaching.
    - Differentiation is out. Mastery is the new classroom buzzword. - https://www.theguardian.com/teacher-network/2015/oct/01/mastery-differentiation-new-classroom-buzzword
    - Learning Repetition Leads to Mastery - https://gamificationnation.com/learning-repetition-leads-mastery/
    - *Options for Flexibility* – Adjust responses to students based on the student's skill levels and emotional skills.
- **Guided practice**
    - Guided practice helps students to practice skills correctly with modeling and provides feedback to help with mistakes. The four stages of guided practice are: I do (modeling), we do together (guided practice), you do together (peer practice), and you do independently (independent practice.
    - The importance of guided practice in the classroom. - http://exclusive.multibriefs.com/content/the-importance-of-guided-practice-in-the-classroom/education
    - *Options for Flexibility* – Provide scaffolds for task explanations, provide options for choral responses, use accommodations as needed for student demonstrations.
- **Direct instruction with explanations and instructional cues**
    - Direct instruction provides opportunities for establishing goals and objectives, organizing instructional activities, providing explanations and instructional cues, and sharing core concepts and information.
    - Direct Instruction - http://edglossary.org/direct-instruction/
    - 4 Teaching Tips for More Effective Direct Instruction - http://www.teachthought.com/learning/4-teaching-tips-for-more-effective-direct-instruction/
    - *Options for Flexibility* – Provide goals and objectives in a variety of formats, use information and activity organizers to guide students during instructional activities.

- **Explicit instruction**
  - Explicit instruction is effective, direction teaching where students are active participants in the learning process.
  - What is Explicit Instruction? - http://www.shastacoe.org/uploaded/dept/is/district_support/explicit_instruction_may_2009.doc
  - Explicit Instruction & Gradual Release - http://www.acpsk12.org/pl/acps-classrooms-in-focus/explicit-instruction/
  - Exploring the Foundations of Explicit Instruction - https://explicitinstruction.org/download/sample-chapter.pdf
  - *Options for Flexibility* – Provide options in how instructional content is chunked into smaller learning units, provide options in assessment, provide options for engagement.
- **Options for assessments**
  - Assessments are a part of the learning process and provide feedback to teachers on the effectiveness of the instruction and feedback to the students on their skill development. This feedback leads to problem solving by teachers and students.
  - 6 Types of Assessment of Learning - http://www.teachthought.com/pedagogy/6-types-assessment-learning/
  - Formative Assessment That Truly Informs Instruction - http://www.ncte.org/positions/statements/formative-assessment/formative-assessment_full
  - *Options for Flexibility* – Provide assessments in a variety of formats, support accommodations in assessment, provide a variety of formative assessments.

C	Curriculum	Curriculum refers to **what is taught**. Curriculum would include **scope, sequencing, pacing, materials, rigor, format, relevance**.

- **Standards based curriculum and assessment**
  - A "standards-based" curriculum refers to a system of instruction, assessment, and data reporting that supports students in the understanding and mastery of grade level standards. This curriculum includes clear instructional design tools for all instructional staff and instructional materials designed for all students.
  - Chapter 3. Standards-Based Curriculum and Assessment Design - http://www.ascd.org/publications/books/100043/chapters/Standards-Based_Curriculum_and_Assessment_Design.aspx
  - Curriculum Self-Assessment Tool - http://www.tlc-mtss.com/assets/curriculum-self-assessment-tool.pdf
  - The Standards-Based Teaching/Learning Cycle - https://www.cde.state.co.us/cdechart/standards-basedteachingandlearningcycle
  - *Options for Flexibility* – Make sure that the curriculum design documents and instructional guides are developed based on universal design for learning principles, use personalized learning systems to closely align the curriculum and the students' strengths and needs.
- **Scope and sequence**
  - "Scope" refers to the depth of understanding the standards and "sequence" refers to the order of instruction on the standards, allowing the development of knowledge built upon knowledge.
  - Fundamental practice 3: Scope and sequence - http://flsbd16.wikispaces.com/file/view/Plan%20Critical%20Question%201%20FP%203.pdf/592958298/Plan%20Critical%20Question%201%20FP%203.pdf
  - Example scope and sequence documents, Houston Independent School District - http://www.houstonisd.org/Page/69564
  - The spiral curriculum - https://eric.ed.gov/?id=ED538282
  - *Options for Flexibility* – Provide opportunities for students to bridge learning between units of instruction, use a spiral curriculum model to revisit the same standards throughout a year with increasing complexity.
- **Descriptions of mastery with skill rubrics**
  - Teachers and students need clear descriptions of what mastery of a standard looks like, as well as a rubric to help the student monitor progress towards mastery.
  - Rigorous learning goals & performance scales - https://www.palmbeachschools.org/staffdev/scales/
  - Marzano Proficiency Skill Bank - http://www.marzanoresearch.com/resources/proficiency-scale-bank
  - Design Tools for Mastery Learning - http://www.redesignu.org/design-lab/mastery-learning/design-guides
  - *Options for Flexibility* – Provide formative assessments aligned with the levels of skill rubrics to guide students towards mastery, use assessment tools that can adapt to a range of skill mastery.

- **Instructional/educational materials**
  - Instructional/educational materials in Florida includes materials that are available in bound, unbound, kit, or package form and may consist of hardbacked or softbacked textbooks, electronic content, consumables, learning laboratories, manipulatives, electronic media, and computer courseware or software that serve as the basis for instruction for each student in the core courses of mathematics, language arts, social studies, science, reading, and literature.
  - National Center on Accessible Educational Materials - http://aem.cast.org/
  - Florida Publishers' UDL Rubric - http://www.tlc-mtss.com/assets/udl-reviewer-rubric-district-example.pdf
  - National Center on Universal Design for Learning - http://www.udlcenter.org/
  - *Options for Flexibility* – Provide leveled books on core content, provide educational materials in a variety of formats and media, provide technology tools that students can use to transform content from one media to another (e.g. text-to-speech, large print, audio).
- **Educational technology**
  - Educational technology includes the use of technological processes and resources to facilitate learning and improve academic and behavioral performance.
  - Office of Educational Technology - https://tech.ed.gov/
  - Educational technology & mobile learning - http://www.educatorstechnology.com/
  - *Options for Flexibility* – Use different types of technology tools to provide students options for engagement, options for representation, and options for expressing what they have learned; provide technology tools for self-progress monitoring.
- **Instructional scaffolding**
  - Instructional scaffolds are supports provided to students to help ensure that they can engage in the instructional activities to enhance learning. As student learn the scaffolds can gradually be removed.
  - Instructional scaffolding to improve learning - https://www.niu.edu/facdev/_pdf/guide/strategies/instructional_scaffolding_to_improve_learning.pdf
  - Scaffolds for Learning: The Key to Guided Instruction - http://www.ascd.org/publications/books/111017/chapters/Scaffolds-for-Learning@-The-Key-to-Guided-Instruction.aspx
  - *Options for Flexibility* – Provide resource and technology based scaffolds and allow students to select the scaffolds they will use, monitoring the effect on learning, and adjust their scaffolds as needed.

E	**Environment**	The environment is **where the instruction takes place**. Variables in the environment include classroom **expectations, beliefs/attitudes, peers, school culture, facilities, class size, attendance/tardiness, management**.

- **School culture**
  - The culture of a school includes the beliefs, rituals, attitudes, written and unwritten rules that influence and shape the school itself.
  - School culture - http://edglossary.org/school-culture/
  - 5 signs of a positive school culture - https://www.noodle.com/articles/5-signs-of-a-positive-school-culture
  - *Options for Flexibility* – Schools that "believe" in flexibility will provide options for students and help students learn to support each other. Make sure the rituals, attitudes, and rules reflect an understanding of the diversity of the student population.
- **Daily schedules and routines**
  - "Schedules" refer to the plan for the events of a day at school and "routines" are the predictable and repeated activities that help the schedule run smoothly. Good schedules and routines help students feel comfortable with the changes in the day and transition from one activity to another.
  - School schedule templates - https://www.template.net/business/schedule-templates/school-schedule-template/
  - Flexible scheduling for in-class supports - https://www.palmbeachschools.org/ese/wp-content/uploads/sites/62/2016/04/FlexibleSchedulingforInclusivePractices.pdf
  - Rules, routines, schedules - http://pbiscompendium.ssd.k12.mo.us/rules-routines-schedules
  - *Options for Flexibility* – Provide schedule and routine guides in different media, formats, and languages. Prepare to adjust schedules to accommodate changes (e.g. students, instructional units, teacher).
- **Behavioral rules/guidelines and expectations**
  - Good behavioral rules and guidelines are clear, easy to understand, and lead to increased learning in the classroom.
  - Classroom management - http://www.teachhub.com/classroom-management-developing-clear-rules-expectations
  - Establishing clearly defined parameters of acceptable classroom behaviors - http://www.ascd.org/publications/books/105124/chapters/Establishing-Clearly-Defined-Parameters-of-Acceptable-Classroom-Behaviors.aspx
  - *Options for Flexibility* – Provide rules and guidelines in different media, formats, and languages. Model and practice expected behaviors for students who need this level of support.
- **Attendance**
  - Consistent school attendance is a crucial factor contributing to student success. Lost learning time in all grades leads to low math and reading skills.

- PreK-12 Newsletter: Absenteeism - http://www.floridarti.usf.edu/resources/newsletters/pk12/2016/pk12newsletter3.pdf
- Chronic absenteeism can devastate K-12 learning - http://www.edweek.org/ew/articles/2014/10/08/07chang.h34.html
- Six causes – and solutions – for chronic absenteeism - https://www.naesp.org/communicator-september-2016/six-causes-and-solutions-chronic-absenteeism
- *Options for Flexibility* – Use flexible instructional schedules and routines to help students re-engage after being absent. Use peer learning groups to provide additional support for students after being absent.

- **Class size**
  - The size of a class can make a difference in learning, but the amount of difference can vary depending on the grade level and other factors.
  - Why class size matters today - http://www.ncte.org/positions/statements/why-class-size-matters
  - Does class size really matter? - https://www.districtadministration.com/article/does-class-size-really-matter
  - *Options for Flexibility* – Use small group instruction and project-based learning activities to provide students in large classrooms focused instructional time in small groups.
- **Arrangement of the classroom**
  - The physical arrangement of a classroom can affect many things, including managing a classroom, student morale, engagement, student learning, and student behavior.
  - Classroom arrangement - http://www.readingrockets.org/article/classroom-arrangement
  - The importance of classroom structure - https://www.amle.org/BrowsebyTopic/WhatsNew/WNDet/TabId/270/ArtMID/888/ArticleID/443/The-Importance-of-Classroom-Structure.aspx
  - *Options for Flexibility* – Arrange different parts of the classroom to emphasize learning goals, such as learning centers, peer learning areas, project areas, and large group instruction.
- **Types of furniture and equipment**
  - The types of furniture and equipment in a classroom can increase or inhibit student choice, active participation, and engagement. The furniture can also increase or inhibit the instructional strategies a teacher is able to use in a classroom.
  - Can classroom furniture improve student engagement? - http://www.gettingsmart.com/2015/01/can-classroom-furniture-improve-student-engagement/
  - Flexible classrooms - https://www.edutopia.org/practice/flexible-classrooms-providing-learning-environment-kids-need
  - *Options for Flexibility* - Use furniture that can be quickly set up in different arrangements to facilitate movement from large group instruction to small group instruction to project-based instruction.
- **Academic choice**
  - Classrooms that provide students with resources and options in how to reach learning goals give those students' academic choice. The fewer the resources

available, the fewer opportunities for students to choose how to engage in the instruction.
    - Academic choice - https://www.responsiveclassroom.org/academic-choice/
    - How can I use academic choices to help students stay motivated? - https://k12teacherstaffdevelopment.com/tlb/how-can-i-use-academic-choices-to-help-students-stay-motivated/
    - *Options for Flexibility* – Academic choice aligns great with universal design for learning principles; giving students options for engagement, representation, and expression.
- **Peer learning**
    - Peer learning is a learning strategy where students interact with each other, teaching and learning from each other, to obtain their educational and behavioral goals.
    - Why should I do peer-to-peer learning? - https://www.techsmith.com/edu-k12-peer-to-peer.html
    - Using peer learning in the classroom - https://tlc.utk.edu/wp-content/uploads/sites/39/2010/12/HowToPeerLearning_Final.pdf
    - Ask three before me - http://olms.cte.jhu.edu/olms2/data/ck/sites/273/files/18047_PT_CoopLearnHB%2025.pdf
    - *Options for Flexibility* – Provide diverse types of student grouping, depending on the learning goals. Provide options for the intent of the small groups: casual groups, cooperative groups, and teams.

L	**Learner**	The learner is **who is being taught**. This is the last domain that is considered and is only addressed when the curriculum and instruction are found to appropriate and the environment accommodating. Variables include **motivation prerequisite skills, organization/study habits, abilities, impairments, and history of instruction**.

- **Expert learner**
  - Expert learners are students who are purposeful and strategic in their own academic achievement.
  - UDL and expert learners - http://www.udlcenter.org/aboutudl/expertlearners
  - Personalization vs. differentiation vs. individualization - http://www.personalizelearning.com/2013/03/new-personalization-vs-differentiation.html
  - *Options for Flexibility* – Expert learners self-progress monitor and select tools, resources, and scaffolds as needed to achieve learning goals.
- **Student characteristics**
  - How students feel about themselves and their confidence in themselves can have a tremendous impact on learning. Students can have a sense of hopelessness and can sabotage their own work to keep from being disappointed.
  - Teaching strategies to build student confidence - http://www.teachhub.com/teaching-strategies-build-student-confidence
  - 28 ways to build persistent and confident students - http://teaching.monster.com/benefits/articles/10348-28-ways-to-build-persistent-confident-students
  - *Options for Flexibility* – Use skill rubrics to help set attainable goals for each student based on student strengths. Provide diverse levels of formative assessments.
- **Cognitive processes**
  - There are a variety of cognitive processes important for learning, such as how we work with and organize information, memory, how we express what we know with others, how we plan and evaluate, and many more.
  - Cognitive processes and learning - http://cognitive-supports.wikispaces.com/
  - Teach cognitive processing strategies - https://iris.peabody.vanderbilt.edu/module/dbi1/cresource/q2/p06/
  - *Options for Flexibility* – Provide a variety of tools and scaffolds that students can select from to support different cognitive processes during instructional activities.
- **Assistive technology**
  - Assistive technology, as defined in IDEA, is any item, piece of equipment, or product system that is used to increase, maintain, or improve the functional capabilities of the child.
  - What is assistive technology? - https://www.atia.org/at-resources/what-is-at/
  - Assistive technology for kids with learning disabilities - http://www.readingrockets.org/article/assistive-technology-kids-learning-disabilities-overview

- *Options for Flexibility* – Support students in the selection, acquisition, and use of assistive technologies so they will have ownership in what they use.

- **Accommodations**
  - Accommodations are supports that students with disabilities need and are documented in their IEP or Section 504 plan. They support access and progress in the general curriculum.
  - Accommodations guide for students with brain injury - https://www.brainline.org/article/accommodations-guide-students-brain-injury
  - What are some common accommodations for kids with dyslexia? - https://go.learningally.org/wp-content/uploads/2015/02/LA_Accommodations_1014.pdf
  - *Options for Flexibility* – Provide resources, tools, and options in a variety of areas such as; presentation format, comprehension, listening, following directions, task and materials management, responding.
- **Accessibility**
  - Students with disabilities may have accessibility problems in a classroom. This could be due to the physical layout of the classroom. It can also be due to the types of educational materials and technologies being used. Accessibility is critical for students with disabilities to participate in and progress in the general curriculum.
  - Making science labs accessible to students with disabilities - http://www.washington.edu/doit/making-science-labs-accessible-students-disabilities
  - Computer access assistive technology - http://assistivetechnology.strikingly.com/
  - *Options for Flexibility* – Use universal design principles to in the classroom arrangement, type of furniture, technologies, and educational materials.