

NATRI Essential Element Delphi Study
The 31 Essential Elements of Assistive Technology Assessment Reports

Student Background Information

Background Information: Student

- 1 name
 - 3 birth date/chronological age:
e.g., age at point of data collection (to include testing, assessment, etc.)
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Background Information: Health/Medical

- 8 documented sensory impairments (participant-added element):
medically recognized sensory deficits or diagnoses; results of most recent exam
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Background Information: School

- 12 school/district:
name, system/district
 - 13 primary school contact & current key educators & direct service providers:
name, specific contact information to include phone, voicemail, pager, fax, email; technology related skills
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Background Information: Referral

- 6 IFSP/IEP goals and/or desired outcomes:
current existing & needed; short- & long-term educational, therapy, daily living, vocational, communication, recreation, social goals, objectives & outcomes; agreed upon by child/student; how technology can assist in meeting; clear & specific; attach copy of IEP/IFSP (if appropriate)
 - 14 reason for referral:
specific reasons for assessment; e.g., detailed descriptions of major areas of concern related to student's ability to do expected tasks in customary environments; functional goals to be achieved/would technology assist the student in accessing/accomplishing required curricular tasks more easily and independently; what do want to learn regarding person's resources, abilities, needs; how might daily life change; intervention goals; family needs/goals
 - 40 tasks (element category):
what specifically does the student need to be able to do that is difficult or impossible for him at this time and at the expected level of independence? What are the major areas of concern, which need to be addressed?
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Background Information: Sensory

- 17 sensory (element category):
e.g., precautions and/or considerations related to student sensitivity & stimulation; vision, hearing, etc.

18 vision (element category):

e.g., last exam/report (date & information; documented impairment); strengths & limitations; to include acuity, correction, field loss; degree of functional vision (no functional, functional aided, normal, unknown); visual concerns (acuity, tracking, scanning, visual field/peripheral vision, nystagmus, strabismus, figure ground, color blindness); visual preferences/requirements (color, contrast, field); object placement; sensitivity

Background Information: Communication

25 expressive - method/mode:

strengths & limitations; e.g., spoken, vocalizations, signed communication, gestures & number of gestures, hand/finger pointing, eye pointing, coding, facial expressions, pictures, scanning, alternative or augmentative communication system; Braille; intelligibility of communication mode

27 Is communication an area of concern for this student? (participant-added element):

This should be the first question in the communication skills section. If the answer is "yes", then answers to the rest of the questions in the section become essential. If the answer is "no" then they become irrelevant

Background Information: Learning/Cognition

28 cognitive skills & abilities:

e.g., identifies receptively, expressively; categorizes, sequences, associates, initiates, follows simple commands; attends; short-/long-term memory; problem solving; organization; indication of preferences; integration/assimilation of skills; comprehension (including listening comprehension); level of object representation; mental ability; learning speed/rate, difficulties in learning new; learning style; executive functions

29 Is cognition an area of concern for this student? (participant-added element):

This should be the first question in this section. If the answer is "yes", then seeking answers to subsequent questions is essential. If the answer is "no" then subsequent questions MAY be largely irrelevant

Background Information: Motor

32 gross motor – mobility:

means in which move within & between environment(s)/travel & satisfaction with; forms include ambulation, wheeled mobility - dependent (stroller), wheeled mobility - self-propelling, power mobility - scooter, power chair, alternate controls (non-joystick driving), etc.; community access to include private vehicle use and mass transportation

33 gross motor - postural stability:

specific strengths & limitations in a) sitting balance (unsupported seated position), range of motion, of pelvis, hips, knees, & spine to achieve balanced seating position; b) upper extremity and head control in balanced sitting position; c) muscle tone, coordination, range of motion, physical strength & comfort, trunk, neck & head control

34 Are motor abilities [sic] and movement areas of concern for this student? (participant-added element):

This should be the first question in this section. If the answer is "yes", then seeking answers to subsequent questions becomes very important. If the answer is "no" then the subsequent [sic] questions become largely irrelevant

Background Information: Tools

43 technology (no- to high-tech) used in the past & no longer in use (element category):

e.g., months, percent of day used & outcomes; degree of satisfaction; solutions which have not been effective; reason for discontinued use; behavioral responses; perceived attitude/student's personal perceptions of, interactions with; approach to; parent/caregiver reactions; experiences with devices (battery operated, computer, adaptive); previous adaptations; history; date purchased/obtained and date stopped using; who provided/paid for; what worked, what didn't, & why; characteristics/features/settings/preferences of peripherals - size, number, hand preference, range of motion, spacing, timed response, scanning, layout, representation, target, text; augmentative communication system - symbol set, access, technique; switch use (number, type, size); sensory characteristics; access options; feedback & physical components; student willingness to use

44 technology (no- to high-tech) currently/frequently used (element category):

e.g., hardware & software used in school, home, work, &/or other location; no-tech to high-tech; tools available for use; strategies to increase student performance; & characteristics/features/settings/preferences of e.g., peripherals - size, number, hand preference, range of motion, spacing, timed response, scanning, layout, representation, target, text; augmentative communication system - symbol set, access, technique; switch use (number, type, size)

Environments

36 environments (element category):

environments in which assessment goals & tasks are to be performed by the student to include home, educational, community, vocational, & leisure; e.g., environmental & contextual assessment; performance demands placed on student by environment; special concerns

Environments: Natural/Customary

37 educational environment/school:

considerations of both physical environment & cultural environment in which student is to perform identified task(s); e.g. support, independence & cooperation of friends/peers & family; status in eyes of peers; social support; attitudinal barriers; access - school, classroom settings, laboratories, library, auditorium, cafeteria, lavatories, hallways, stairs, playground, entrances; physical & architectural barriers

Tools (technology use)

41 tools to perform tasks (technology use: no- to high-tech) (element category):

e.g., general/common, assistive, educational, workplace, healthcare technology interventions; no- to high-tech; device or system; exploration of options; barriers & goals for device

- 42 student preferences (participant-added element):
Does the student have preferences regarding the type(s) of AT to use?

Tools: Comparison

- 46 comparison of use of technology (no- to high-tech) (element category):
e.g., assistance required; environmental fit all environments; capabilities & stamina to use without discomfort, stress, fatigue, adaptation/accommodation; length of expected use; effectiveness of features in meeting intended outcomes
- 48 comparison of characteristics/features of technology (no- to high-tech):
e.g., size & portability; access issues, vocabulary access issues; ease of maintenance & repair; upgrade options; cognitive requirements; requirement of cognitive training or physical adaptation or customization to fit into routine; availability of training/support; preferences

Recommendations

- 51 recommendations (element category):
for each identified task (after trial); implications of findings, concerns; devices & services; characteristics of devices; abilities & skills; summary of behaviors without value judgments; no tech, low tech, & high tech options with identified characteristics

Recommendations: General

- 53 features of technology (no- to high-tech) options are based on the student's needs in the identified environments in performing the identified tasks:
match capabilities of technology to student needs; highlight of "best" matched features; e.g., appropriate technological design & capabilities to meet student needs/abilities; criteria - availability within reasonable time span, portability, durability, reliability, expandability, flexibility; no restrictions of student's functioning in other areas; support available, academic relevance, external evaluations on device available, compatibility with hardware & software in environment, appropriate & comprehensive documentation, ease of repair, ease of operation, compatibility with other adaptive devices currently in use; manufacturer/vendor - reasonable price, good training & technical support, loaner/rental available (initial trial & during repair), adequate warranty; summary of data collected; needs are categorized by device, personality & preferences, disability, environment & rank; individualized plan (functional response); appropriate technological design & capabilities to meet student needs/abilities; ease of use/minimal operational demands; prepares user for future needs; multiple uses; allows for independent use; compatible with technology home/community; preferences; access skills; no-tech, low-tech, & high-tech options considered for inclusion in an AT system for a student with these needs & abilities doing these tasks in these environments
- 54 recommendations about tools & strategies are made based on and justified with information about the student, environment, and the tasks:
e.g., no-tech, low-tech, medium-tech & high-tech options considered for inclusion in an AT system for a student with these needs and abilities doing these tasks in these environments

Action Plan

58 training:

e.g., training for technical operation, functional use & acceptance/awareness (service providers, including teachers, student, peers, parents); training content (student-specific, technology/device specific, integration of device, support services) follow-up training; provider of training

Reporting

62 report date (element added through analysis)

Assessment

15 dates of assessment activities:

to include formal & informal activities such as screenings, observations, assessment activities; time(s) of day; assessment completion date
