

Supplementary File – Pre-licensure Nursing Education for the Care of People With Intellectual and Developmental Disabilities: A Scoping Review

Appendix A: Master Search Terms

Population	Concept	Context
Licensed practical nurses	Childhood development disorders, pervasive	Learning
Nurses		Learning activities
Nursing	Children with developmental disabilities	Education
Nursing assistants		Education, nursing
Nursing students	Intellectual disability	Clinical
Nursing faculty	Intellectual disability, x-link	Clinical competence
Nursing instructors	Developmental disabilities	Clinical teaching (health professionals) (ERIC SH)
Practical nurses	Developmental disorders	Lab
Students, nursing, associate		College
Students, nursing, diploma program	Mental retardation	Community
Students, nursing, baccalaureate	Learning disability*	Simulation
Students, nursing, practical	Learning disorder	Curriculum
	Autistic disorder	Learning outcomes/objectives
	Autism spectrum disorder	Skills
	Down syndrome	Teaching
	Fetal Alcohol syndrome	Theory
	Persons with mental disabilities	Health education
	Pervasive developmental disorders	Placement
	Search the subject heading for neurodevelopmental disorder***	Problem-based learning
		Pedagogy
		School
		Undergraduate
		University

		Education, nursing, practical Education, nursing, diploma programs Education, nursing, associate Education, nursing, theory-based Education, nursing, research based Education, nursing, baccalaureate
Key words for title and abstract**:	Key words:	Key words:
Nurs*	Developmental disord* Developmental disab* Intellectual disord* Intellectual disab* Mental retard* Learning disord* Learning disab* Autis* Down syndrome Fetal alcohol* Neurodevelopmental disord* Neurodevelopmental disab*	Learn* Educat* Clinical* Lab* College* Communit* Simulat* Curricul* Skill* Teach* Theor* Placement* Pedagog* School* Universit* Undergrad*

Appendix B: Summary of Articles Included in the Scoping Review

No.	Study	Type	Population	Inclusion	Concept
1	Ahmed et al. (2020)	P	PG	N	PCC; Co; DS; B
2	Ailey & O'Rourke (2008)	F	G	Y	PCC; CHN; Col; DM; Pal
3	Ailey et al. (2008)	D	G; SD	N	PCC; Pal
4	Atherton (2015)	P	MH	N	CHN
5	Atkinson & Williams (2011)	F	ID/LD	Y	PCC; A; B; CHN
6	Ballantyne (2013)	F	G	N	A; DM
7	Bania et al. (2023)	P	G	N	Co; B; Sk
8	Barksby (2014)	P	G	N	PCC
9	Beadle et al. (2012)	F	G	Y	PCC; Co; DM
10	Ben-Sefer (2006)	F	G	N	A; H
11	Bland (2014)	F	ID/LD	N	PCC; Co; B; Col
12	Bollard et al. (2012)	D	ID/LD	Y	PCC; Co
13	Bowyer (2009)	F	SN	N	PCC; Co; A; DM
14	Boyd et al. (2008)	P	G; NP	Y	PCC; Co; Col
15	Boyd et al. (2019)	P	G	Y	PCC; Co; A; B; DM; Sk; E
16	Braid & Abdulla (2013)	F	ID/LD	N	CHN

No.	Study	Type	Population	Inclusion	Concept
17	Branch (2019)	F	ID/LD	N	PCC; Co
18	Buckley et al. (2018)	F	ID/LD	N	Sk
19	Byrne (2019)	F	G	N	PCC; DM
20	Carey et al. (2023)	P	ID/LD	N	PCC; DS; CHN; Pal
21	Cash & Shinnick-Page (2008)	F	ID/LD	N	PCC; CHN; Sk
22	Cashin, Pracilio, Buckley, Kersten, et al. (2022)	P	PG	N	PCC; Co; DS; B; CHN; Col; Sk
23	Cashin, Pracilio, Buckley, Morphet, et al. (2022)	P	PG	N	DS
24	Cassidy (2012)	D	ID/LD	Y	PCC; Co; A; CHN; DM; Sk
25	Chao & Yang (2022)	P	G	N	PCC; Co; DS; B; Col; Sk
26	Colbert & Kronk (2020)	P	G	Y	PCC; Co; A; CHN; Col; Sk; H
27	Cooper-loelu et al. (2024)	P	G	N	PCC; A; DS; CHN; Col; Sk
28	Cromar-Hayes et al. (2024)	P	G	N	PCC; Co; A; DS; B; Col; DM; Sk; E
29	Dennison (2013)	F	ID/LD	Y	PCC; A; Col; H; O
30	Díaz-Agea et al. (2022)	P	G	N	PCC; Co; A; DS; B; Col; DM; Sk; E; S
31	Diedrich (2017)	F	G	N	PCC
32	Doody & Condon (2012)	F	ID/LD	N	Col
33	Doody & Condon (2013)	F	ID/LD	N	PCC; Co; Sk
34	Doody et al. (2012)	F	ID/LD	N	PCC; Co; A; DS; B; H

No.	Study	Type	Population	Inclusion	Concept
35	Doody et al. (2022)	P	ID/LD	N	PCC; B
36	Easby (2013)	F	G	N	PCC; Co; DM
37	Edwards & Nash (2023)	P	G	Y	PCC; Co; A; B; CHN; Col; Sk; E
38	Edwards (2021)	F	G	N	A; E
39	Edwards (2024)	D	G; T	N	PCC; Co; DS; CHN; Sk
40	Edwards et al. (2022)	P	G	N	PCC; Co; B
41	Finlayson & Darbyshire (2015)	P	ID/LD	N	PCC; Co; Col
42	Fisher et al. (2020)	D	G; ID/LD	N	PCC; Co; A; DS; CHN; DM; Sk; Pal
43	Gardner (2012)	D	G	N	PCC; A; DS; B
44	Gates & Statham (2013)	P	ID/LD	N	U
45	Gaylord et al. (2012)	F	G	N	PCC; DS
46	Gibbs & Colclough (2010)	F	ID/LD	N	PCC; Co; A; DS; CHN; DM
47	Gibbs & Priest (2010)	F	ID/LD	N	PCC; Co; A; CHN; Col
48	Gibson (2007)	F	MH	Y	PCC; Co; A; DS; B; CHN; DM
49	Gibson (2009)	F	G	Y	PCC; Co; A; DS
50	Goddard et al. (2010)	P	G	N	PCC; Co
51	Goldschmied (2014)	F	ID/LD	Y	PCC; Co; A
52	Green (2012)	F	G	N	PCC; Co

No.	Study	Type	Population	Inclusion	Concept
53	Hammond (2009)	F	ID/LD	N	PCC; Co; B
54	Hartnett & McNamara (2024)	P	G; ID/LD	N	PCC; Co; A; DS; B; CHN; Col; Sk; E; Pal; S
55	Harrison & Laforest (2011)	F	G	N	PCC; Co
56	Haugland et al. (2023)	P	G; O	Y	PCC; Co; DS; B; CHN; Col; Sk
57	Hayes & Rose (2017)	F	G	N	PCC; Co; DS; B; Col
58	Heidinger (2006)	D	G; ID/LD	Y	PCC; A
59	Heidinger (2009)	F	ID/LD	N	PCC; B; CHN
60	Hibberd (2015)	F	G	N	PCC; Co; DS; Col
61	Honey et al. (2006)	P	G	N	PCC; Co; B; DM
62	Igwe et al. (2010)	P	G	N	DS
63	Killiard (2017)	F	MH	N	PCC; DS
64	Kitching (2012)	F	G	N	PCC; Co; A
65	Kleebauer (2015)	D	G	Y	Co
66	Kürtüncü & Kurt (2021)	P	G	N	Co
67	Lally (2016)	F	ID/LD	N	PCC; Co; CHN; Col
68	Lewis et al. (2013)	P	ID/LD	N	Co; DS; Sk; Pal
69	Mac Giolla Phadraig et al. (2023)	P	O	Y	PCC; DM
70	Malapela et al. (2017)	P	G	N	PCC; Co

No.	Study	Type	Population	Inclusion	Concept
71	Maloret & Watkin (2016)	F	U	Y	PCC; A
72	Maloret (2012)	F	ID/LD	N	A
73	Manchester (2014)	D	M; T	N	PCC; Co; B; CHN; Col; DM
74	Marshall (2009)	F	G	N	A; CHN; Sk
75	Martin (2008)	F	ID/LD	N	PCC; Co; A; Col; DM; Pal
76	Mathieson (2008)	F	ID/LD	N	PCC; Co; A
77	McClimens & Brewster (2017)	P	NSW	N	PCC; Co
78	McClimens et al. (2012)	P	ID/LD	N	DS
79	McClimens et al. (2017)	P	ID/LD	N	PCC
80	McConville & Lane (2006)	P	G	N	Co; B; DM; Pal
81	McGahee et al. (2018)	P	G	N	PCC; A; DM; Sk
82	McGarry & Aubeeluck (2013)	P	A; MH	Y	PCC; Co
83	McGlinchey et al. (2024)	F	ID/LD	Y	PCC; Co; Col
84	McIntosh et al. (2015)	F	G	N	PCC; Co; DS; B; Col; DM; Sk; S
85	McIntosh et al. (2018)	P	G	N	PCC; Co; DS; B; Sk
86	Mee (2010)	F	U	Y	PCC; Co; H
87	Mercer et al. (2016)	P	G	Y	PCC; A; Col
88	Mitchell & Leontino (2023)	P	G; ID/LD; O	Y	PCC; Co; A; CHN; Sk

No.	Study	Type	Population	Inclusion	Concept
89	Moharana (2013)	P	G	N	DS
90	Morgan Phillips (2016)	F	ID/LD	Y	PCC; A
91	Murakami et al. (2020)	P	G; PG	N	PCC; Co; DS; DM
92	Nash-Patel et al. (2022)	P	G; PG; T; O	Y	PCC; Co; A; B; CHN; Col; DM; Sk; E
93	Nash-Patel et al. (2023)	P	U	Y	PCC; Co; A; CHN; E
94	Nazarjuk et al. (2013)	F	G	Y	PCC; Co; A
95	Nixon et al. (2019)	F	ID/LD	N	PCC; A; CHN
96	Nowghani et al. (2024)	P	ID/LD	N	PCC; CHN; Sk
97	Nutting (2010)	F	NSW	N	Co; B
98	O'Boyle-Duggan et al. (2012)	P	C; A	N	PCC; Co; B
99	O'Byrne (2015)	F	G	N	PCC; Co; A
100	Orritt (2007)	F	ID/LD	Y	A; Col
101	Ozkara San et al. (2023)	P	G	Y	PCC; Co; DS; CHN; Col; Sk
102	Page & Wakeman (2017)	F	G	N	PCC; CHN
103	Powell (2014)	F	ID/LD	N	PCC; DS; Col
104	Rasouli et al. (2024)	P	ID/LD	N	S
105	Reyes (2014)	F	G	N	DS
106	Royds (2010)	F	G	N	PCC

No.	Study	Type	Population	Inclusion	Concept
107	Sahin et al. (2020)	P	G	N	U
108	Salm (2017)	P	G; PG	N	PCC; Co; A; DS; B; Col
109	Sanders et al. (2007)	P	G	N	PCC; Co; DS; Col; DM
110	Saskatchewan Registered Nurses' Association (2006)	F	G; T	N	DS; DM
111	Saunders & Berridge (2015)	P	PG; MH/C/A	N	PCC; Co; DS; B; CHN
112	Saunders & Knight (2017)	P	MH/C/A	Y	PCC; Co; A; DS; B; CHN; DM
113	Sellers (2006)	F	PG	N	Co; DS; Col
114	Shaw (2009a)	P	T	N	O
115	Shaw (2009b)	P	U	N	PCC; A; DS
116	Sims (2011)	P	PG	N	U
117	Smith & Lister (2011)	F	ID/LD	N	PCC; Co; A; DS; B; CHN
118	Smith et al. (2016)	P	ID/LD; MH/C/A	Y	PCC; Co; A; CHN; DM
119	Southgate (2013)	F	G	Y	PCC; Co; CHN
120	Sprinks (2015a)	D	ID/LD; MH/C/A	N	PCC; Co; A
121	Sprinks (2015b)	D	ID/LD; MH/C/A	N	U
122	Squirrell (2017)	F	ID/LD	N	PCC; B
123	Stanford & Shattel (2010)	F	G	N	PCC; Co; DS; CHN
124	Street et al. (2007)	P	MH/C/A	N	PCC

No.	Study	Type	Population	Inclusion	Concept
125	Taylor (2016)	F	U	N	PCC; Co; A; B; CHN; Col; DM; S
126	Temane et al. (2016)	P	G	N	PCC; Co; A; DS; B
127	Treahearn (2008)	F	U	N	PCC; B; S
128	Trollor et al. (2016)	P	T; M	Y	Co; B; CHN; Sk; E
129	Trollor et al. (2018)	P	G	Y	U
130	Tumanggor et al. (2024)	P	PG	N	U
131	Van Rensburg et al. (2015)	P	G; T	N	U
132	van Sabben (2018)	F	MH/C/A	N	PCC; Co; DS; B
133	Whiteley et al. (2016)	D	ID/LD	Y	U
134	Winston et al. (2023)	P	G	N	Co
135	Wixey (2016)	F	ID/LD	N	PCC; Co; A

Type: D = discussion/editorial; F = field notes; P = primary research

Population: A = students in adult nursing programs; C = students in mental health nursing programs; G = students in general nursing programs; ID/LD = students in intellectual disability/learning disability programs; M = program coordinator or manager of nursing programs; MH = students in mental health nursing programs; NP = students in nurse practitioner programs; NSW = students in combined nursing and social work programs; O = other; PG = nurses providing retrospective information about their nursing education; T = nursing professor or instructor; U = population of nursing students unclear/unspecified

Inclusion: N = people with intellectual or developmental disabilities were not included in development or delivery of content; Y = people with intellectual or developmental disabilities were included in content development or delivery

Concept: A = advocacy; B = challenging behaviour; CHN = complex health needs; Co = communicate; Col = collaboration; DM = decision-making; DS = diagnostic-specific; E = ethics; H = history; O = other; Pal = palliative; PCC = person-centred supportive care; S = security and safety; Sk = nursing skills and competencies to care; U = unclear

Appendix C: CINAHL Database Search

Search ID #	Search terms	Results
S4	S1 AND S2 AND S3	4,421
S3	(MH "Curriculum Development") OR (MH "Education+") OR (MH "Education, Nursing, Diploma Programs") OR (MH "Education, Nursing, Associate") OR (MH "Education, Nursing, Practical") OR (MH "Education, Nursing, Theory-Based") OR (MH "Education, Nursing, Research-Based") OR (MH "Education, Nursing, Baccalaureate+") OR (MH "Education, Nursing+") OR (MH "Teaching Methods, Clinical+") OR (MH "Teaching Materials, Clinical") OR (MH "Simulations+") OR (MH "International Nursing Association for Clinical Simulation+")	1,000,423
S2	MH ("Intellectual Disability+") OR (MH "Intellectual Disability, X-Linked+") or (MH "Developmental Disabilities") OR (MH "Persons with Mental Disabilities") OR (MH "Persons with Disabilities+") OR (MH "Child Development Disorders") OR (MH "Infant Development Disorders")	107,396
S1	(MH "Students, Nursing, Associate") OR (MH "Students, Nursing, Diploma Programs") OR (MH "Students, Nursing, Baccalaureate+") OR (MH "Students, Nursing+") OR (MH "Students, Nursing, Practical") OR (MH "Practical Nurses") OR (MH "Registered Nurses") OR (MH "Baccalaureate Nurses") OR (MH "Faculty, Nursing")	93,748

Appendix D: Data Extraction Tool – Guidance Form

Extraction item	Description of each item
Author	Last name, First name
Year	The year the article was published
Title of source, journal, volume, issue, page range	Title of article, name of publishing journal, volume, issue, page range
Country	<p>In what country was the research, curriculum, or experience conducted?</p> <ul style="list-style-type: none"> • USA • UK + Ireland (UK = England, Scotland, Wales, Northern Ireland) • Canada • Australia • Other
Author's position	<p>What is the author's position?</p> <ul style="list-style-type: none"> • Nursing student • Nursing graduate (completed nursing pre-licensure training) • Faculty/researcher • Policy decision maker/organization leader • Unclear <p>Note: Data extracted to first author; not capturing others.</p>
Type of evidence source	<p>What is the type of evidence source?</p> <ul style="list-style-type: none"> • Primary research: peer-reviewed research articles • Evidence syntheses: narrative reviews, systematic reviews, scoping reviews, rapid reviews, etc. • Discussion/editorial articles: position statements, calls to action

	<ul style="list-style-type: none"> • Field notes: reflective notes from education exposure, reports from implemented pedagogy • Theses (none)
Population of nurses	<p>Which class of nurse was included as a study participant OR whose perspective was reported? Select all that apply.</p> <ul style="list-style-type: none"> • Pre-licensure general nurses • Pre-licensure intellectual disability/learning disability nurses • Nurses graduated from nursing education (retrospectives) • Nursing professor, nursing Instructor • Mental health*, child, or adult focus undergraduate nursing education stream, or combined nursing and social work degree • Unclear <p>*does not indicate intellectual disability/learning disability focus</p>
Concept (about people with IDD)	<p>What did nursing students learn about people with intellectual and developmental disabilities (IDD)? Select all that apply.</p> <ul style="list-style-type: none"> • Advocacy <ul style="list-style-type: none"> ○ Inclusion, social justice, accessibility, dismantling discrimination, ableism, stigma ○ With or for people with IDD • Awareness about injustice/inequities in care and deconstruction • Labels and understanding—difference models of disability and defining IDD • Protecting human rights • Behaviours <ul style="list-style-type: none"> ○ Of person with IDD, of nurse (de-escalation, positive behaviour planning) ○ Self-harm/injury • Collaboration

	<ul style="list-style-type: none"> ○ Nursing students collaborate interprofessionally and intraprofessionally, with carers/families, people with IDD, nursing students educating others about IDD • Communication <ul style="list-style-type: none"> ○ Speaker is nurse: therapeutic communication, adaptive communication, alternative ways of communicating, reasonable adjustment ○ Speaker is person with IDD; diverse modes of communicating • Complex health needs <ul style="list-style-type: none"> ○ Defined as phenotypes and vulnerabilities specific to people with IDD—e.g., choking, seizures, mental health; management of these issues • Decision-making <ul style="list-style-type: none"> ○ Consent, nursing decision-making • Diagnostic-specific <ul style="list-style-type: none"> ○ Any diagnosis, including specific learning about epilepsy ○ Theme: autism spectrum disorder, Down syndrome • Ethics • History • Nurse skills, competencies to care <ul style="list-style-type: none"> ○ Assessment skills, pain care • Pain • Palliative • Patient-centred supportive care <ul style="list-style-type: none"> ○ Reasonable adjustment, therapeutic relationship, patient education, understanding lived experience of people with IDD, individualized interventions, providing nursing care to support activities of daily living, universal human needs
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	<ul style="list-style-type: none"> ○ Sexual health, nutrition and exercise, preferred presentation of food, ethics and legislation ○ Information passport—one-page profile ● Security and safety ● Unclear
Context (curriculum, program, education)	
Inclusion of people with IDD in development/delivery of curriculum	<p>Was there inclusion, including active participation and collaboration, of people with IDD in the context? Select only one answer.</p> <ul style="list-style-type: none"> ● Yes – clearly specified that people with IDD were included in the development/delivery of curriculum (theory, lab, clinical) ● Not clearly specified – not explicitly stated whether people with IDD included; potential, such as in clinical patient-centred care, but not explicit in how people with IDD were collaborated with
Location of content	<p>How was content about people with IDD integrated into the context of pre-licensure nursing curriculum? Select all that apply.</p> <p>Within learning disability programs, answer this question according to where the article topic was being applied in the discussion—e.g., one course, module, discussion of throughout the program.</p> <ul style="list-style-type: none"> ● Integration within total program of study ● Course-specific ● Episodic topic (e.g., one class on a certain topic) ● Unspecified ● Other
Setting/site (delivery location of content)	<p>Where, within pre-licensure nursing education programs, did nursing students learn about people with IDD? Select all that apply.</p> <ul style="list-style-type: none"> ● Classroom ● Lab

	<ul style="list-style-type: none"> • Clinical – hospital/health care facility, including long-term care • Clinical – institution for people with IDD, not including group homes <ul style="list-style-type: none"> ○ Defined as any service site specific to persons with IDD (e.g., specialized schools, units, nursing homes) • Clinical – group homes • Clinical – community • Clinical – unspecified location • E-learning (virtual space) • Unspecified • Other (if clinical, specify where)
Teaching/learning methods	<p>How were nursing students educated? Select all that apply.</p> <ul style="list-style-type: none"> • Lecture • Case study – application of knowledge to a client/patient case • Simulation <ul style="list-style-type: none"> ○ Students acting out roles or improvising scripts, in a realistic and problematic social or interpersonal situation ○ Students playing out, either in person, or virtually, a hypothetical social situation that abstracts key elements from reality • Reflection • Problem-based learning – student groups conducting outside research on student-identified learning issues (unknowns) to devise one or more solutions or resolutions to problems or dilemmas presented in a realistic story or situation • Project-based learning – students applying course knowledge to produce something; often paired with cooperative learning and or an assignment • Patient interaction – exposure in nursing program to people with IDD • Unspecified

	<ul style="list-style-type: none"> • Hub and spoke – authors will specifically mention this if used • Service learning – theory and aligned clinical to apply theory • Storytelling; oral history; guest speaker with IDD presenting on their own experience, people with IDD co-teaching with faculty • Other – art/drama, mentorship, clinical, etc.
Interdisciplinary/intradisciplinary delivery	<p>Was the curriculum delivered to nursing students and any of the following? Select all that apply.</p> <ul style="list-style-type: none"> • interdisciplinary students (i.e., other professions—medical, allied health) • intradisciplinary students (i.e., other nurses—nurse practitioners, doctoral students, practising nurses) • Unspecified – by default indicated unknown, no mention inclusion of any additional student group beyond nursing students