

Science of Early Child Development

FACILITATOR GUIDE

BC Access Site



SECD
SCIENCE OF EARLY
CHILD DEVELOPMENT

Science of Early Child Development

FACILITATOR GUIDE

BC Access Site



UNIVERSITY OF
TORONTO

A K D N
AGA KHAN DEVELOPMENT NETWORK

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Introduction

The purpose of this guide is to support people who use or wish to use the SECD to teach classes and to facilitate workshops and other teaching sessions. If you already have explored the resources, you know that there is a wealth of interesting content, in a variety of element types - including webtext, review activities and hundreds of videos. In this guide you will find information to help you prepare to use SECD as a teaching tool for both face-to-face and online learning.

This guide includes:

- Background information – about the SECD initiative, the SECD series of living textbooks, related resources and online elements
- Suggestions for using an SECD living textbook as a requirement for students (on the “book list”), including assignment ideas and examples of course outlines where SECD is a required resource
- Ways to simplify your search for topics and content within the living textbooks
- Tips for face-to-face and online facilitators
- Recommendations for integrating SECD content areas into child and human development courses

We welcome your feedback and would be happy to incorporate your tips and ideas into this guide. Please contact us at: SECD@rrc.ca

SECD background

The Science of Early Child Development (SECD) is a knowledge mobilization initiative. The main goal is to make current research accessible to anyone interested in learning more about the impact of early experience on lifelong health and well-being.

The SECD team at Red River College works in partnership with the University of Toronto and the Aga Khan Development Network. The growth and expansion of the SECD initiative has been supported with generous funding from The Lawson Foundation, the Aga Khan Foundation and World Bank. The Conrad Hilton Family Foundation, The Bernard van Leer Foundation and The Winnipeg Foundation have provided additional support.

SECD reaches a wide audience around the world through courses and workshops at a variety of levels and with a number of partners. In addition, monthly e-messages broaden the audience. Each SECD e-message includes information and sample videos to inspire and engage people to think about the vital importance of the early years. These are easy to use as topics for class discussion, for staff meetings or as information for parent groups. The e-message sign-up is on the main menu of the BC Access page: bc.scienceofecd.com



SECD tools

SECD tools include online and offline resources with a variety of elements developed to engage learners and increase people's understanding of concepts related to early human development, health and well-being. Elements within SECD resources are varied. For example:

- Videos of experts from around the world allow learners to hear directly from researchers and professionals. Over 130 experts have been interviewed, many of them more than once. SECD users can play the videos with captions and access transcripts, to further their understanding.
- Videos of children - interacting with each other and with caregivers and teachers, and of programs for children and families - allow SECD users to see powerful examples of child development and adult-child interaction from around the world. The SECD team has filmed in 10 countries around the world.
- Webtext on each SECD page explains concepts and guides the SECD user through the material.
- SECD readings provide easy to print summaries of information.
- "Consider" examples are real-life scenarios that illustrate concepts and encourage reflection.
- Interactive review games and animated slideshows help SECD users check their understanding.
- Questions for reflection and discussion throughout the resources provide SECD users the opportunity to analyze the information from their own perspective.
- "Want to know more" elements contain advanced information for deeper understanding.
- Links to vetted reports and websites provide additional information.

What is a living textbook?


We call our largest resources “living textbooks”. They are multimedia, online textbooks. They are “living” because they are regularly updated.













In BC, residents have access to:

SECD – North American Edition – This was the first Science of Early Child Development edition to be developed. The depth and scope of content make it ideally suited for use in undergraduate and graduate programs. The research and program examples are mainly from North America with international examples also included.

SECD – Introductory Edition – This is an abridged version of the North American Edition. Like the North American Edition, it includes a wide range of early child development topics. It has been shortened and simplified for those at a more introductory level.

Modules

 The content on this site is available exclusively to people located in B.C. To access content, your browser will prompt you for your location. By clicking through to the SECD resource you agree to use the material for non-commercial, personal reference purposes only.

	North American Editions This “living textbook” contains five modules on a wide range of early child development topics. It includes content and examples from both North America and the broader international context.	 
	Introductory Edition Modules This abridged version of the North American Edition contains five modules/chapters covering a wide range of early child development topics. It has been shortened and simplified for a more introductory level.	 
	Child Development Primer This module gives background information on theories and the study of child development. It explores vital concepts related to working with young children including the importance of observation, play and positive guidance.	
	Introduction au développement de l'enfant Cette introduction au développement de l'enfant est un document d'information traitant des théories et de l'étude du développement de l'enfant. Il explore les concepts essentiels liés au travail avec de jeunes enfants, notamment l'importance de l'observation, du jeu et de l'orientation positive.	
	Prenatal Development Module This module explores the impact of the prenatal environment on fetal development and life-long health. Topics such as maternal health and nutrition, prenatal stress, and social supports are reviewed.	

bc.scienceofecd.com

SECD modules:

Each SECD living textbook contains five modules or “chapters”:



Brain Development (BD)

Compelling research about early brain development has reshaped the way we think about child development. During the prenatal period and the first few years of life, the brain is exquisitely sensitive to external influence. A basic understanding of early brain development equips us to plan, implement and advocate for young children and their families more effectively. The Brain Development module provides this understanding.



Coping and Competence (CC)

This module considers how children develop from complete dependency to being capable of coping with the world around them, relate to others, manage life's challenges and regulate their behaviour. Themes in this module include the importance of social interactions with adults and children as well as the role of internal forces.



Communicating and Learning (CL)

Learning does not start when children begin school. From birth, and even pre-birth, babies are learning constantly about the world around them and becoming ready for communication. This module explores exciting research into memory, early language development and the important role of play in learning. It also focuses on ways to capitalize on everyday learning opportunities with young children.



The Ecology of Childhood (EC)

Children do not exist in isolation. This module focuses on the interplay of the many contexts of childhood and development. From conception on, other individuals, available resources, opportunities, and cultural patterns shape a child's world. Because each child has a unique genetic predisposition, even children who experience similar environments can have very different outcomes. In turn, children themselves affect their environments.



Developmental Health (DH)

This module is about the ‘big picture’. Early childhood is a period of astonishing cognitive, social, emotional and physical growth that launches developmental trajectories into the years ahead. The research presented in this module looks at why early years have such a long-term impact on both individuals and societies. The links to practice focus on how to use this information to advocate for children and families.

In addition to the two living textbooks, BC users can access::

- **Child Development Primer**

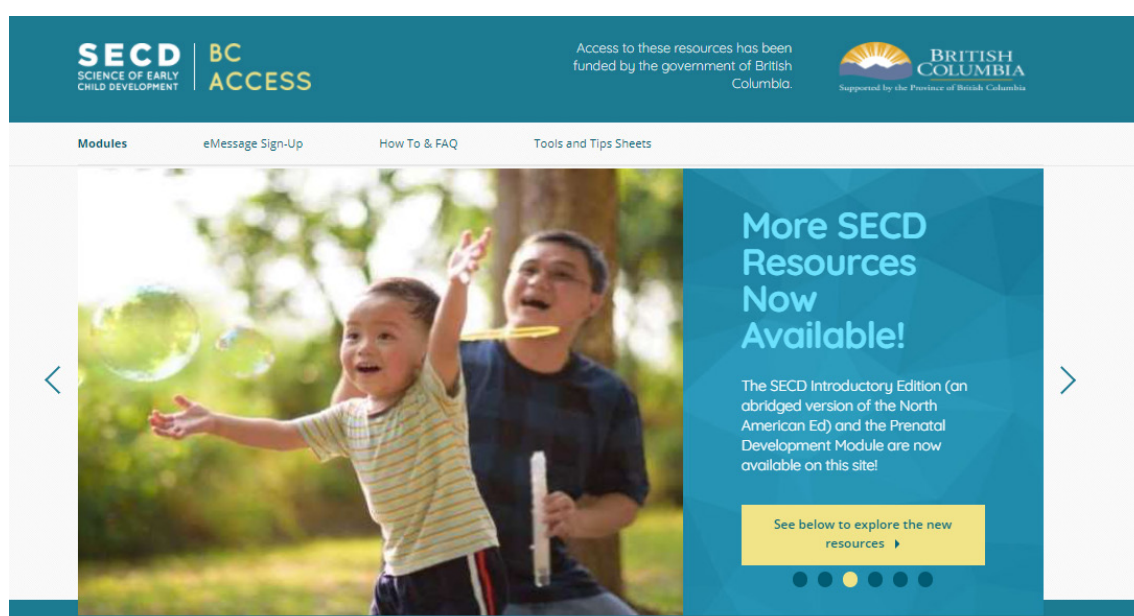
This multimedia tool presents synthesized information on: theories of human development, the study of development, developmental domains, observation, positive guidance and the importance of play.

- **Introduction au développement de l'enfant**

Cette introduction au développement de l'enfant est un document d'information traitant des théories et de l'étude du développement de l'enfant. Il explore les concepts essentiels liés au travail avec de jeunes enfants, notamment l'importance de l'observation, du jeu et de l'orientation positive.

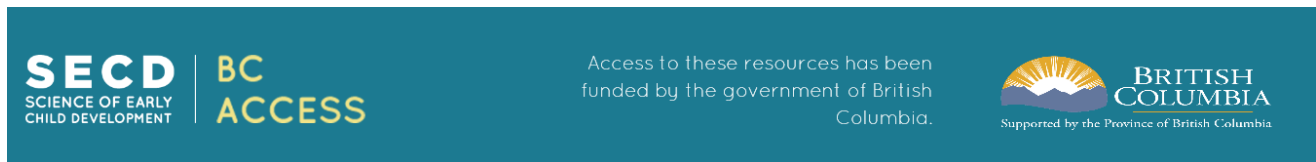
- **Prenatal Development Module**

This module explores the impact of the prenatal environment on fetal development and lifelong health. Topics such as maternal health and nutrition, prenatal stress, and social supports are reviewed.



British Columbia access site

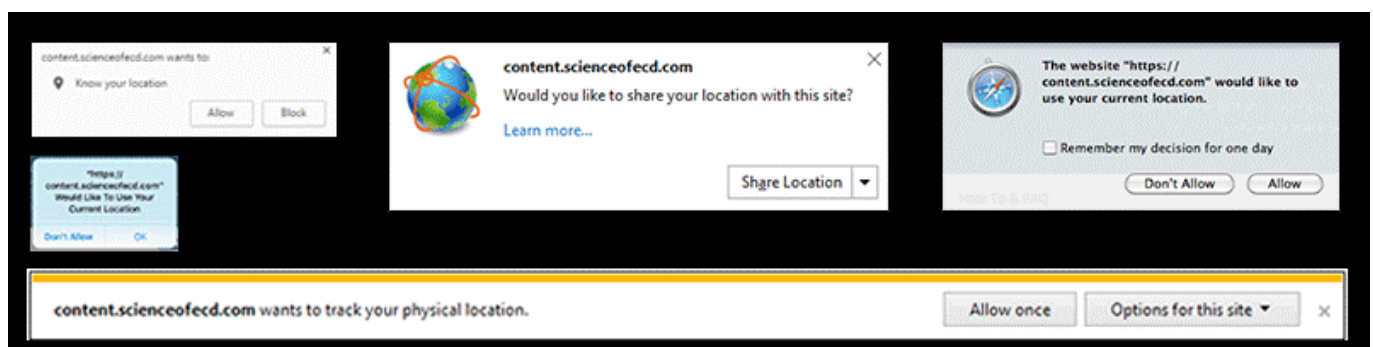
Access to the Science of Early Child Development (SECD) resources has been funded by the government of British Columbia for residents of BC. In order to access them you must do so from a computer or other device located in BC.



Accessing Science of Early Child Development

Gaining access to the SECD modules is simply a matter of clicking on the links on the home page. However, the first time you click to enter one of the resources your browser will display an alert box asking your permission to share your location using “geolocation”. Geolocation is a function in modern web browsers that can identify a general geographic location. Choose the positive choice (e.g., “allow” or “share location”) in the alert box prompt on your first visit and that is it, you are in. As long as you use the same computer or web device you should not need to confirm your location again.


The alert prompt will look different depending which device and browser you are using. However, the samples below will give you an idea of what to expect:















Exploring the SECD modules


To access the five modules in each of the living textbooks, click on '+' to expand that section.

Modules

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	North American Editions This "living textbook" contains five modules on a wide range of early child development topics. It includes content and examples from both North America and the broader international context.		
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	Prenatal Development Module This module explores the impact of the prenatal environment on fetal development and life-long health. Topics such as maternal health and nutrition, prenatal stress, and social supports are reviewed.		

In each SECD module there is a table of contents that shows the three sections (overview, research and links to practice). Clicking on each section title reveals the pages within that section.



North American Ed - Brain development

TABLE OF CONTENTS

Overview

1. Early brain development

1.1 Brain architecture

1.2 Experience-based brain development

Research

Links to practice

Additional SECD information

Back to North American Ed homepage


Previous

Next

1. Early brain development

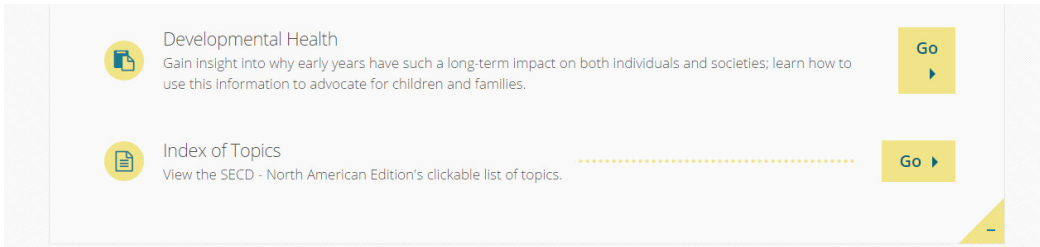
“The formation and growth of the human brain are undoubtedly two of the most remarkable feats of human construction... Knowledge of brain development is critical to understanding child development” (Nelson, 2011, p. 45).

In recent years, the explosion of new science about early human brain development has changed the way we think and has increased our understanding of how important everyday experiences are for nurturing brains. Much of this is due to new information about the interplay between genes and experience and the sensitive, reactive nature of the brain.

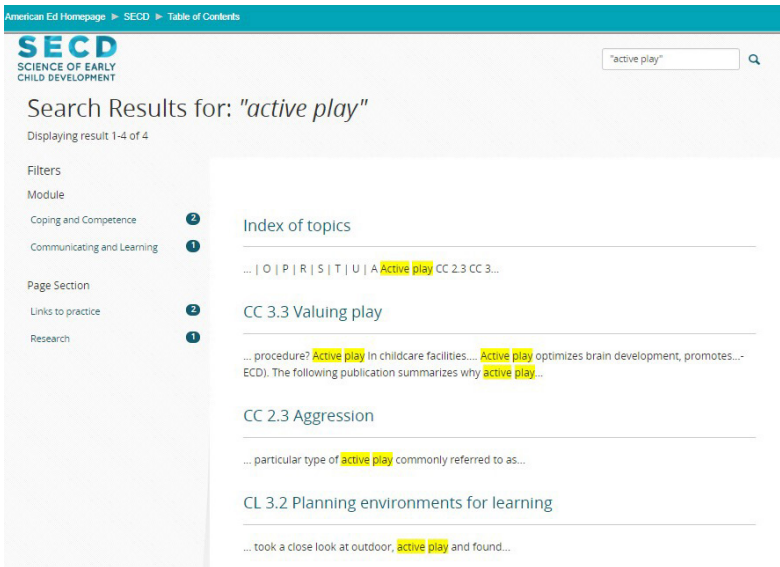


Topic exploration:

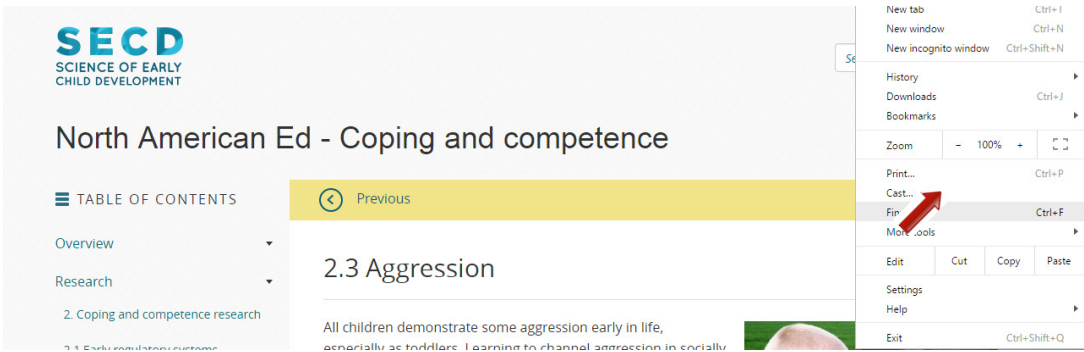
In the North American Edition, which is the largest resource, the Index of Topics can help you find the SECD pages that include information on a given topic so that you can choose the elements relevant for your audience.



For example, for a class on Active Play, the Index of Topics lists three SECD pages with information. Clicking on a page in the Index of Topics opens that page.



You can look for that topic on the SECD page by using the browser's "find" feature. For example, in Chrome, the drop down menu is to the right of the URL bar:




To prepare a presentation or class on active play, you might choose to incorporate information from Coping and Competence p. 2.3, p. 2.6, and p. 3.3:

What aspects of the environment do you think help children learn to control aggression and become socially competent?


Tremblay discusses an intervention program used in the study with high risk boys. Can you see how what they did might be implemented on a wide scale? Do you know of such a program?

Listen as Tremblay describes the value of play-fighting, which is a particular type of **active play** commonly referred to as rough-and-tumble-play.


 **VIEW**
Tremblay- play fighting; rough and tumble (2:06)

The following report by Tremblay, Gervais and Peticlerc (2008) is a comprehensive look at the research on aggression among young children, what we know about the risks of persistent aggression, and the importance of early prevention. It includes a multi-faceted discussion of what can be done by parents, educators and society.


Learn more by reading the Active Healthy Kids Canada report card below.

 **READ**
Is **Active Play** Extinct?

Now play the review game to check your understanding.


 **INTERACT**
Active play

Active play optimizes brain development, promotes physical growth, and fosters social and emotional development. Young children come to understand their world, navigate their surroundings and learn to negotiate with others. Children develop a repertoire of flexible responses to situations they create and encounter, develop self-regulation and learn to overcome day-to-day challenges.

 **INTERACT**
ParticipACTION review quiz

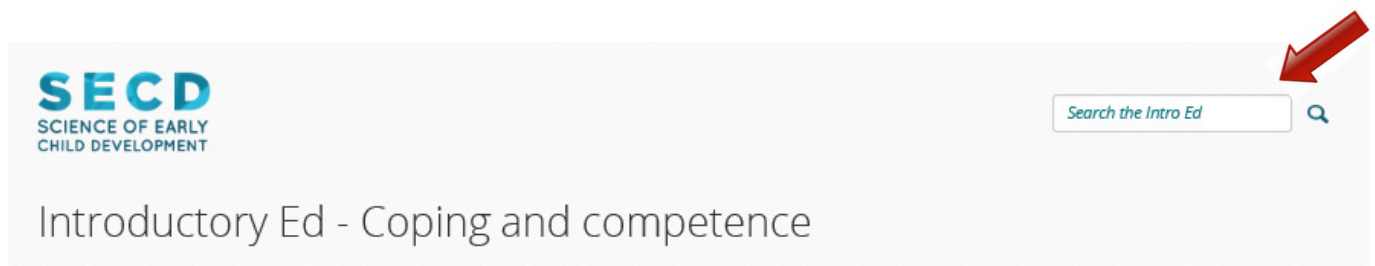
A lot of outdoor **active play** takes place in playspaces that adults have planned for children. Around the world, play spaces for children vary widely in terms of what is typical and what meets safety regulations. Public play spaces for children, whether school playgrounds or play spaces in parks and child care centres, are a **hot topic** for research and debate. In North America, traditional playgrounds often include pre-made metal or wooden structures for climbing and swinging, built on asphalt surfaces. *Nature playgrounds* that emphasize natural elements over fabricated structures are gaining popularity, but they are not yet the norm.

Dr. Mariana Brussoni is an associate professor in the Faculty of Medicine at the University of British Columbia and works in the area of injury prevention with the British Columbia Injury Research and Prevention Unit. Listen as she describes research on how children play on traditional, prefabricated structures versus play areas with more variety, loose parts, and natural materials.

 **VIEW**
Brussoni - research on children's play (1:42)

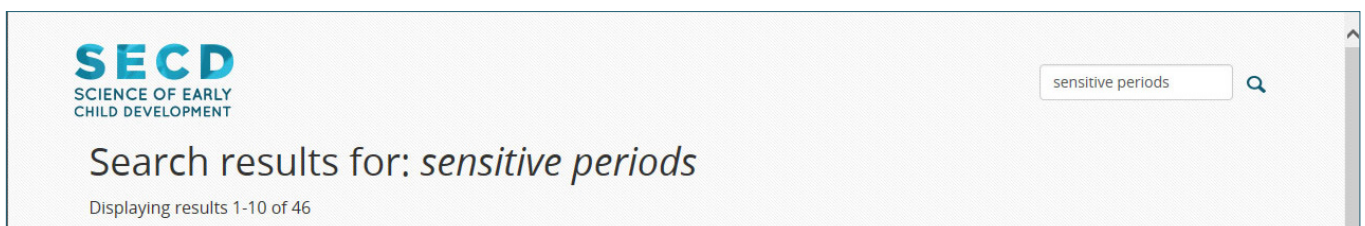
Search function:

A convenient way to find information on a topic is to use the search function found in the upper right corner of each SECD webpage. Follow this same procedure to find more information about a particular researcher/expert. **Note: the search function for each resource is limited to that resource.** For example, when you access the Child Development Primer the search will display pages in the Primer resource; when you access a living textbook the search will display pages in the five modules within that living textbook.



Try to be specific with the name or terms that you want information on. This will narrow down the search to the most relevant pages.

When looking for a specific item, using quotation marks around the term/name will show you only the webpages with that exact text. For example, the following search in SECD – North American Edition for the term sensitive periods, shows that **one or both of those words** appear on 48 SECD pages.



However, when the words are in quotations, the results show only the five SECD pages that contain that exact term.

The screenshot shows the SECD Science of Early Child Development website. At the top left is the SECD logo. At the top right is a search bar containing the text "sensitive periods" and a magnifying glass icon. Below the search bar, the heading reads "Search results for: 'sensitive periods'" followed by "Displaying results 1-5 of 5". On the left side, there is a sidebar with the heading "Filters" and two sections: "Module" and "Page Section". Under "Module", "Brain Development" is selected with a count of 3, and "Coping and Competence" has a count of 2. Under "Page Section", "Links to practice" is selected with a count of 3, and "Overview" has a count of 2. The main content area displays five search results, each with a title and a snippet of text. The titles are: "BD 1.2 Experience-based brain development", "BD 3. Practices for healthy brain development", "BD 3.1 Advancing maternal and prenatal health", and "CC 3. Supports for coping and competence". The snippets contain the phrase "sensitive periods" or "sensitive period" highlighted in yellow. The fifth result is partially visible and also contains the highlighted phrase.

Clicking on a page title opens that page. Follow the instructions on page 11 for locating information with the browser's "find" tool.


Results are displayed filtered by SECD module and module section. To see only the pages in one module or section, click on the module or section name under "Filters" in the left sidebar.


Using SECD as a student resource

1. General information

SECD resources work well as a main or supplementary textbook for a course or set of courses. Students can access all of the content themselves on a computer, tablet or smartphone – true mobile learning. Instructors can assign SECD webpages or videos, readings, or other elements within a module for students to review before a class or to use for an assignment, just as they assign pages to read in a traditional textbook. **See Appendix A - Integrating SECD topics into early years courses** for a list of courses and suggestions of SECD content for each. Simply share the BC Access homepage link with students - bc.scienceofecd.com


Modules

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North American Editions

This "living textbook" contains five modules on a wide range of early child development topics. It includes content and examples from both North America and the broader international context.




Introductory Edition Modules

This abridged version of the North American Edition contains five modules/chapters covering a wide range of early child development topics. It has been shortened and simplified for a more introductory level.




Child Development Primer

This module gives background information on theories and the study of child development. It explores vital concepts related to working with young children including the importance of observation, play and positive guidance.



Introduction au développement de l'enfant

Cette introduction au développement de l'enfant est un document d'information traitant des théories et de l'étude du développement de l'enfant. Il explore les concepts essentiels liés au travail avec de jeunes enfants, notamment l'importance de l'observation, du jeu et de l'orientation positive.



Prenatal Development Module

This module explores the impact of the prenatal environment on fetal development and life-long health. Topics such as maternal health and nutrition, prenatal stress, and social supports are reviewed.

2. Suggestions

Using SECD for one course or several courses:

The SECD resources contain a wealth of information. Some instructors use SECD as the student resource for **one course**, building a course around the five modules. Whether the class happens face-to-face, online or a combination (hybrid delivery), the SECD living textbooks contain ample material and variety of topics on which to base a full course.

Other instructors/programs use SECD as a core or supplementary resource in **a range of courses or throughout a program**. Students would access SECD material that is applicable to each course or learning objective.

See **Appendix B - Course outline examples** to see examples of courses that require students to access SECD.

Assigning content to students - one approach:



Whether students are using SECD for one course or throughout many different courses, to maximize their exposure to the content consider dividing the material so that each student delves into selected topics. Each student then collaborates with others who explored other topics to share highlights about “their” material. Students benefit from hearing information from others and from the experience of explaining what they learned.

For example, in a module, have students do a thorough review of one of the research pages and then present information to people who reviewed the other pages. This works well in both face-to-face settings and in online forums with students.

The following screenshot shows the first page of the research section, and the section table of contents, from the Ecology of Childhood module in the North American Edition.

The screenshot displays the SECD (Science of Early Child Development) North American Edition website. The header includes the SECD logo and a search bar labeled 'Search the NA Ed'. The main heading is 'North American Ed - The ecology of childhood'. A sidebar on the left contains a 'TABLE OF CONTENTS' with links to 'Overview', 'Research', and '2. Ecology of childhood research'. The main content area is titled '2. Ecology of childhood research' and includes a 'Previous' button. The text explains that research on the ecology of childhood relates to childhood environments and experiences, organized within Bronfenbrenner's ecological model. It introduces Dr. Jennifer Jenkins, chair of the Atkinson Centre for Society and Child Development at the University of Toronto, and her Kids Families and Places Study. A video player shows a clip titled 'Jenkins - kids, families, and places (3:05)'. The video shows a man holding a baby. Below the video, it states that early findings revealed that children in disadvantaged, low-income families are...



After choosing or being assigned one of the pages, students could respond to questions such as:

- Prepare a synthesis of the information you reviewed.
- For the research you reviewed, discuss the implications for people who work with children and families.
- Discuss who are the stakeholders that would benefit from learning about this area of research and why they need the information?
- What suggestions do you have for future research activities related to this topic?

More in-depth study:

In the SECD resources, there are opportunities to go more deeply into a topic. Elements marked as **“Want to know more?”** provide links to readings, videos and websites for this purpose. Learners and instructors can use these for advanced study. These elements are also useful for learners preparing assignments on those topics.

The following example is from the Prenatal Development module.

Prenatal Development

A public awareness campaign about alcohol and pregnancy is being promoted by Manitoba Liquor and Lotteries. Explore more about this initiative including some helpful resources available to the public on the “Be With Child Without Alcohol” webpage.

EXPLORE
Be with child without alcohol

Changing alcohol consumption behaviours can be challenging, and even more so for those who struggle with addictions. Explore useful information about alcohol and pregnancy on the Coalescing on Women and Substance Use: Linking Research, Practice and Policy website. The site features six areas of practice under the “Alcohol and Pregnancy” banner. For each, a grey sidebar appears on the left with links to information on relevant research findings, helpful strategies, further resources for practice and reflective questions.

EXPLORE
Alcohol and pregnancy

Want to know more?

Oral health is also linked to prenatal development and outcomes such as preterm birth and low birth weight babies. Read more about how poor oral health may affect a pregnancy and prenatal development on the Government of Canada website.

READ
Oral health and pregnancy

Prenatal nutrition guidelines, as they relate to Canada’s Food Guide, can be found on the Health Canada website – a useful resource for health professionals working with the child-bearing aged population.

READ
Food and nutrition: Prenatal nutrition guidelines for health professionals – Background on Canada’s Food Guide

SECD Facilitator Guide

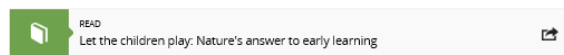
scienceofecd.com

3. Assignment ideas

Throughout all SECD resources, many of the readings, videos, and ‘Consider’ examples are followed by **questions for reflection**. Instructors can assign the elements and corresponding questions as the basis for assignments. For example:

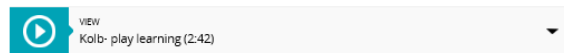


Assign a topic for learners to review and have them write a **thought paper or essay** to answer the question that accompanies the material. This example is from the Communicating and Learning module in the Introductory Edition.



Active play optimizes brain development, promotes physical growth, and fosters social and emotional development. Young children come to understand their world, navigate their surroundings and learn to negotiate with others. Children develop a repertoire of flexible responses to situations they create and encounter, develop self-regulation and learn to overcome day-to-day challenges.

Listen now as Dr. Bryan Kolb explains why and how active play is essential for brain development.



Yet, in childcare facilities, physical activity levels are low, with as much as 89 per cent of kids' time spent sitting still.

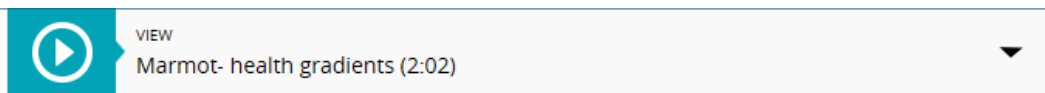
Less than half of kids aged four to five—and just one third of two- to three-year-olds—participate in regular, unorganized sports and other physical activities each week. (Active Healthy Kids Canada, 2010)

A large body of research confirms the importance of play (not just for physical activity but for all areas of development). It is not something to simply “fit in” if there is time, but rather a necessity essential for healthy child development.

Q Think about your own childhood memories of play. What was your favourite play activity and why? What do you think you were learning in this play? How would you describe opportunities for children to play in your community? Is safety an issue or not?



Use a question for a **group debate**, requiring learners to explore a controversial topic and prepare arguments supporting opposing sides. This example is from the Developmental Health module in the North American Edition.



Q Marmot says social gradients show “Action has got to be across the whole of society, not simply on the poor. If you focus only on the bottom, you miss most of the problem”. What does this mean? How does gradient research he cites support this argument?



Have students **design a brochure or poster** to share information with a group of parents, for example, expectant parents or parents of toddlers. Topics such as, attachment, aggression, self-regulation, executive function, guidance, friendship, language development, mental health, milestones, nurturing, parenting and stress, are just some of the topics that would be appropriate for a parent audience and would test students abilities to communicate with parents on these subjects. Students could complete this assignment individually or in groups.



Have students use SECD material to prepare **a policy brief or a presentation** to a stakeholder group on a matter related to early childhood. For example, have students choose a stakeholder group to whom they will present SECD material to explain the importance of sensitive and responsive caregiving in early childhood. Students should use research from SECD and create a policy brief, a slide presentation, article or video. Possible stakeholder groups include:

- Policy makers involved in education, health, etc., indicating level of government
- Parents, expectant or parents of a particular age group
- Early childhood educators/teachers
- High school students
- A funding agency
- A research council (e.g. SSHRC)

Using SECD in a class or workshop


Discussions:



Questions for reflection also can be used for **small or large group discussions** after you review the material with your group.

The following screenshot shows examples of SECD videos and questions for reflection. It is from the Coping and Competence module in the North American Edition.

▶



VIEW
 Greta goes up the slide (3:13)

▼

Q How does Greta's mother nurture and support Greta in this scene? How do you think this affects Greta's feelings of competency?

What do you think may have happened if Greta's mother had ignored or actively discouraged Greta?

Dr. Daniel Keating, at the University of Michigan, discusses how nurturant and stimulating environments in child care settings can support young children's coping and competence.

▶

VIEW
 Keating- nurturance and stimulation (2:06)

▼

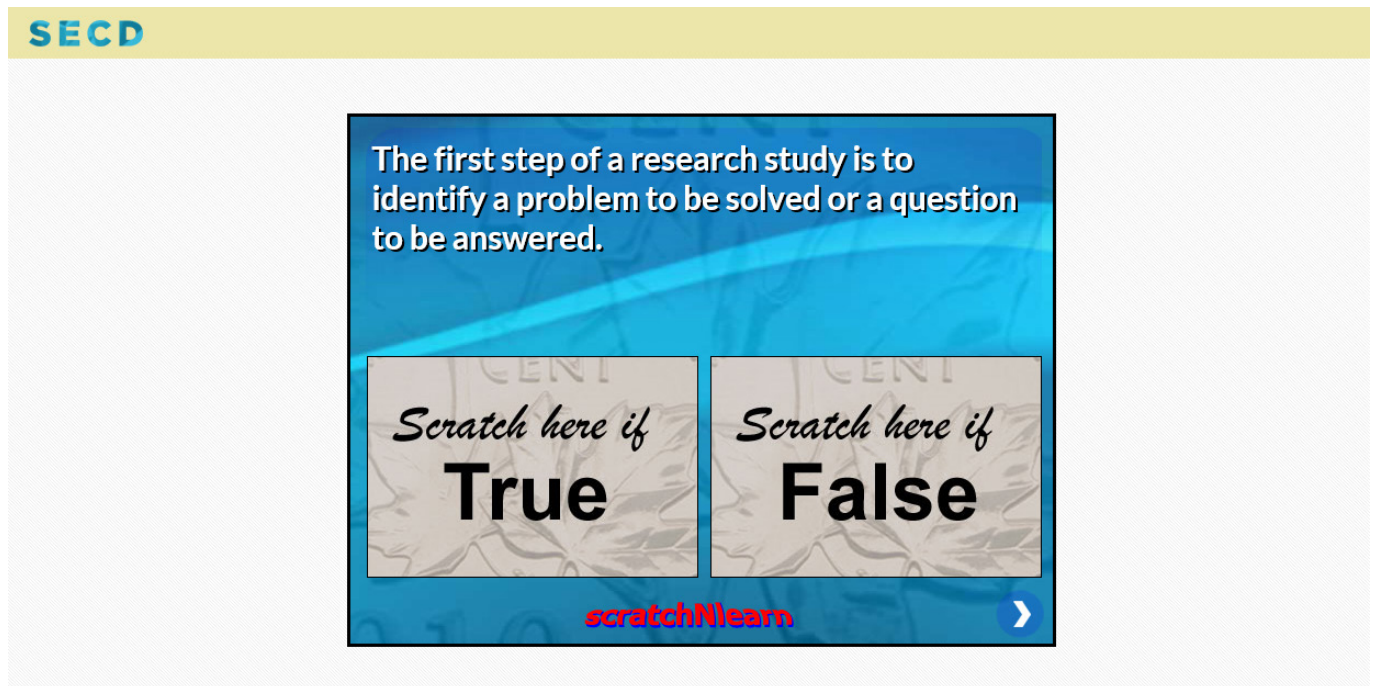
Q What do you think are the elements of a supportive environment for young children?

How do nurturance and stimulation work together to promote coping and competence?

Review games:



You can use the “Interact” elements in SECD to assess group understanding and then clarify concepts. For example, with your group divided into two “teams”, project the game and keep score as people answer questions. Take note of gaps in understanding and review the relevant information. The following screenshot is from the Child Development Primer.



“Consider” examples:



Throughout SECD, there are thought-provoking scenarios that relate to the topic presented and provide people with an opportunity to apply what they are learning. These PDFs are easy to print and distribute to your group. Many contain questions for reflection, making them very convenient as handouts for discussion. This example is from the Coping and Competence module. The “Read more” link opens up the PDF on the following page.



...one key pathway to competence and coping is through the development of regulatory systems. ... the development of these regulatory systems is substantially influenced by the quality of the social environment, especially the quality of the interpersonal relationships experienced early in life... these findings are consistent with the notion that early experience becomes biologically embedded, especially during sensitive periods, and has pervasive and enduring effects on later development” (Keating & Miller, 1999, p. 232)



Consider... Eyad

8-month-old Eyad wakes from his nap. He sits in his cradle and sees his mother and grandmother just outside the door...[Read more](#) .

Self-regulation is the ability to adapt our emotions, behaviours and attention to cope with the demands of a given situation; it involves taking into account not only our own thoughts and feelings but those of others as well. Self-regulation is central to our transition from helplessness to competence.

Researchers from various disciplines have emphasized physiological, cognitive, neurological, psychological and social dimensions of self-regulation as well as regulatory problems (Vohs & Baumeister, 2010). They share the common idea that self-regulation is a central set of interrelated skills and abilities that influence learning, behaviour and health.



SECD
SCIENCE OF EARLY
CHILD DEVELOPMENT

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Consider... Eyad

Eight-month-old Eyad wakes from his nap. He sits in his cradle and sees his mother and grandmother just outside the door preparing food for the evening meal. He makes noises, trying to call to them. They do not acknowledge hearing Eyad, so he calls louder and louder. They still do not turn to Eyad. He begins to cry, then scream and kick the cradle and still his mother and grandmother do not come to him. They need to prepare the food and feel Eyad will eventually stop and entertain himself. Finally, Eyad lays back down, exhausted but still crying quietly.

What if his mother and grandmother demonstrated sensitivity toward Eyad and responded to him? What might that look like? Read the variation of the scene below.

8-month-old Eyad wakes from his nap. He sits in his cradle and sees his mother and grandmother just outside the door preparing food for the evening meal. He makes noises, trying to call to them. They do not acknowledge hearing Eyad, so he calls louder and louder. His mother turns, smiles and comes to Eyad. His mother picks him up and kisses Eyad as she takes him outdoors. The grandmother puts her arms up and Eyad's mother gently places him in his grandmother's arms. His grandmother also kisses him and talks to him. Then she sits Eyad on her legs and gives him a small piece of the bread that mother and grandmother are preparing.



For each of these situations...

What do you think Eyad is learning about his world?

What do you think he is learning about himself? His mother and grandmother?

How is he learning to cope?

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Tips for facilitators

1. Using SECD for face-to-face sessions

BC users have permission to project and share SECD material in face-to-face sessions.

- **Make sure you are prepared ahead of time.** Thoroughly review the SECD content you will be presenting. Reading researcher transcripts, rather than viewing the videos, can save some time.
- **Know your audience.** Think about the background and interests of the group to whom you will be presenting. What are the contexts in which they live and work? Choose or adapt questions for discussion accordingly.
- **Check for understanding.** Plan for many stops to check understanding, for example by asking questions and using SECD review games to see how the group is doing.
- **Pace the session and make time for reflection.** People need time to think, discuss and absorb new ideas. The variety of content in SECD can help you achieve a balance of watching, listening, talking and doing. You may need time to play a video more than once if participants want to see it again.
- **Make sure the technology works!** Arrive earlier than participants and set up the audiovisual equipment and access SECD ahead of time. You will need a reliable internet connection. To show the videos, you will need computer speakers or a data projector with audio. Make sure those at the back of the room can hear and see the screen well and that you know how to manage the equipment yourself. If you do not, make sure you have an assistant present who does. Sometimes a wireless internet connection can make video playback slow. One strategy is to click the video play button before you want to show the video to allow it to stream/buffer ahead of time.

2. Using SECD for online sessions

- **Build connections among the group.** Strategies to build a sense of community include contacting each participant individually to welcome them and encourage their participation, using a news forum to post interesting information and having participants upload profile photos and introduce themselves to each other.
- **Plan the organization of content to be reviewed.** Each of the SECD modules stands alone and can be used in the order that fits with course objectives. Assign SECD webpages or module sections rather than just part of a webpage so your group knows exactly what to cover. Decide and inform the group as to whether they are responsible for the “Want to know more?” sections. Most of these elements will add considerably to the time requirement.
- **Maximize discussion possibilities.** Online discussions have the potential to be rich learning opportunities. If participation is required, all group members will have their “say” and people typically feel free to contribute openly in their postings. In asynchronous (not live) discussions, participants can take their time to compose their responses, check spelling, etc. The following suggestions can help a facilitator encourage successful online discussions:
 - Have people review the content independently before they “come together” in an online discussion. Ensure that people know the discussion question(s) ahead so they review the material with that in mind.
 - Facilitators should monitor online discussions but not necessarily respond too quickly in order to encourage participants to discuss with each other rather than just with the facilitator. Additionally, use questions such as: “Has anyone else had that experience?” and “What do others think?” to encourage dialogue.
 - Consider the appropriate group size for discussions – if you want participants to read and reply to one another’s posts, then a group size of approximately eight usually works well. If participants do not have to reply to each other, a larger group size may work.
 - Send a private email/message to participants who have not been active in discussion forums to let them know their input is valued (or perhaps required if it is a grade requirement).
- **Plan and communicate your online availability.** Consider how often you will monitor the online discussions and check for student messages. Plan to check frequently enough to handle participants’ questions/posts while being reasonable about what your schedule can handle. Let the group know what to expect. Many online facilitators indicate they will respond within 24 hours during weekdays.

Appendix A

Integrating SECD content into early years courses

SECD content suggestions

For Human Development / Early Childhood Education courses

The following table refers to both SECD – North American Edition and SECD – Introductory Edition, except when otherwise indicated. **Child Development Primer suggestions are noted in red.**

SECD's search function may also be helpful when choosing SECD content to support the learning objectives of a course or program.

Course	SECD Module	Section / Pages
Infant Development	Brain Development	The full module is relevant for infant development courses
	Coping and Competence	Overview section (1., 1.1 and 1.2) 2.1 Early regulatory systems 2.2 Family relationships 3. Supports for coping and competence 3.1 Understanding feelings and behaviour
	Communicating and Learning	1. Communicating and learning in early childhood 1.1 Acquiring language 2.1 Early language development 2.2 Bilingualism and multilingualism
	Child Development Primer	Focus on child development Domains of development Developmental milestones Observing children

Course	SECD Module	Section / Pages
Preschool Development	Coping and Competence	Overview section (1., 1.1 and 1.2) 2.3 Emotional learning 2.4 Executive function* 2.5 Adversity and resilience 2.6 Play, coping and competence* 3.1 Understanding feelings and behaviour 3.2 Getting along with others 3.3 Valuing play
	Communicating and Learning	1.2 Thinking and learning 2.3 Literacy 2.4 Early mathematics 2.5 How children learn* Links to practice section (3., 3.1, 3.2 and 3.3)
	Child Development Primer	Focus on child development Domains of development Developmental milestones Observing children

Course	SECD Module	Section / Pages
Foundations of Human Development	Brain Development	Overview section (1., 1.1 and 1.2)
	The Ecology of Childhood	Overview section (1., 1.1 and 1.2)
	Developmental Health	Overview section (1., 1.1 and 1.2) 2. Developmental health research 2.1 Social determinants of health, learning and behaviour 2.2 The socio-economic impact of early childhood education and care
	Child Development Primer	Theories of development Studying child development

Course	SECD Module	Section / Pages
Cognitive and Language Development	Brain Development	1.2 Experience-based brain development 2.4 Memory***
	Communicating and Learning	The full module is relevant for courses on cognitive and language development
	Developmental Health	2.2 The socio-economic impact of early childhood education and care
	Child Development Primer	Domains of development Developmental milestones Observing children

Course	SECD Module	Section / Pages
Social Emotional Development	Brain Development	1.2 Experience-based brain development 2.2 Nurturing 3. Practices for healthy brain development
	Coping and Competence	The full module is relevant for courses on social emotional development
	Child Development Primer	Domains of development Developmental milestones Observing children

Course	SECD Module	Section / Pages
Observation and Communication	Brain Development	3.2 Observing children's development
	Communication and Learning	2.5 How children learn*
	Developmental Health	2.3 Monitoring early child development*
	Child Development Primer	Domains of development Developmental milestones Observing children

Course	SECD Module	Section / Pages
Health and Well-being	Brain Development	Links to practice section (3., 3.1, 3.2 and 3.3)
	Coping and Competence	1. Coping and competence 1.1 Self-regulation 2.5 Adversity and resilience*
	The Ecology of Childhood	Overview section (1., 1.1 and 1.2) 3. Strengthening environments for children
	Developmental Health	Overview section (1., 1.1. and 1.2) 2. Developmental health research 2.1 Social determinants of health, learning and behaviour 3.2 Shaping public policies 3.3 A global agenda

Course	SECD Module	Section / Pages
Learning environments / curriculum	Coping and Competence	3.2 Getting along with others 3.3 Valuing play
	Communicating and Learning	1.2 Thinking and learning 2.3 Literacy (2.2) 2.4 Early mathematics (2.3) 2.5 How children learn* Links to practice section (3., 3.1, 3.2 and 3.3)
	The Ecology of Childhood	2.2 Early child development programs 2.3 Integrating environments for children and families 2.5 Cultural context * 3.2 Strengthening early child development programs
	Child Development Primer	Understanding play

Course	SECD Module	Section / Pages
Guiding	Brain Development	3.3 Caring through everyday experiences
	Coping and Competence	1. Coping and competence Links to practice section (3., 3.1, 3.2 and 3.3)
	Communicating and Learning	1.2 Thinking and learning 3.1 Guiding and teaching
	Child Development Primer	Positive Guidance

Course	SECD Module	Section / Pages
Working / Partnering with families and communities	Coping and Competence	2.2 Family relationships 2.5 Adversity and resilience*
	The Ecology of Childhood	Overview section (1., 1.1 and 1.2) 2. Ecology of childhood research 2.1 Families 2.4 Neighbourhoods and communities * 3.1 Sustaining home life 3.3 Creating child and family friendly communities
	Developmental Health	Links to practice section (3., 3.1, 3.2 and 3.3)

Course	SECD Module	Section / Pages
Advocacy, Policy and Legislation	Communicating and Learning	3.3 Creating curriculum
	The Ecology of Childhood	1.2 Children's rights 2.4 Neighbourhoods and communities * Links to practice section (3., 3.1, 3.2 and 3.3)
	Developmental Health	The full module is relevant for advocacy and public policy courses

Course	SECD Module	Section / Pages
Research methods	Brain Development	2. Early brain development research 2.2 Nurturing 2.3 Stress 2.4 Memory
	The Ecology of Childhood	2. Ecology of childhood research 2.1 Families
	Developmental Health	2. Developmental health research 2.3 Monitoring child development*
	Child Development Primer	Studying child development

Course	SECD Module	Section / Pages
The ECE Profession / Professionalism	Communicating and Learning	3.3 Creating curriculum
	The Ecology of Childhood	2.2 Early child development programs 2.3 Integrating environments for children and families 2.5 Cultural context * 3.2 Organizing for early childhood education
	Developmental Health	2.4 Scaling early child development programs*** 3.1 Advocating for early child development 3.2 Shaping public policies

*This page is not available in the Introductory Edition

** p. 2.2 in Introductory Edition

*** p. 2.3 in Introductory Edition

Appendix B

Course outline examples - Example 1

Diploma level – Infant and child development

Course outcomes and objectives:

1. Integrate how biology and experience shape child and human development
2. Outline the developmental health's language, inclusion of multidisciplinary theories of human development, methods of inquiry and research limitations
3. Illustrate the physical, language, cognitive, social, and emotional development of infants, toddlers, preschool and school aged children
4. Compare how cultural variation and diversity in child rearing practices impact on child development (learning, behavior and health)
5. Examine practices that support child/family health, coping/competence, learning/communication
6. Gain an understanding of how early child development sets the foundation for lifelong learning, behaviour and health through examining the whole child (relationships with others, brain development, contexts, resources, access and barriers)

Week	Topic / Task	Content / Activities	Resources
1	Developmental Health	Introduction/course outline, SECD, How Learning Happens? - What is Developmental Health? Socioeconomic gradients/determinants of developmental health	SECD Developmental Health module
2	Developmental Primer	Developmental Milestones Testing Theories Childhood Video: "Great Expectations" Assignment #1 Due: Scavenger Hunt & Profile Due	SECD Developmental Health module SECD Child Development Primer
3	Brain Development	Finish Development Introduction to Brain Architecture of the Brain Prenatal development "In the Womb"	SECD Brain Development module
4	Brain Development	Genes & Environment Research in brain development Anecdotal observations Assignment #2 Due	SECD Brain Development module SECD Child Development Primer (Observing Children)
5	Excerpts from "ELECT"	In-Class Observation Assignment	
6	Brain Development	Finish Brain Development Review	SECD Brain Development module
7	Test #1	Test 1 (Multiple Choice)	SECD (Developmental Health, Brain Development, Child Development Primer, lecture and video content)
8	Ecology of Childhood	Nature AND Nurture Bronfenbrenner Childhood Video: "Louder Than Words"	SECD Ecology of Childhood module
9	Ecology of Childhood	Parenting Contexts of childhood Culture & diversity "Babies"	SECD Ecology of Childhood module
10	Coping & Competence	Self-regulation Attachment Childhood Video "In the Land of the Giants"	SECD Coping & Competence module

Week	Topic / Task	Content / Activities	Resources
11	Coping & Competence	Social/Emotional Development Competence Childhood Video: "Among Equals" Assignment #3 Due	SECD Coping & Competence module
12	Communicating & Learning	Language development Childhood Video: "Love's Labors"	SECD Communicating & Learning module
13	Communicating & Learning	Cognitive development (Executive Functions) Review Childhood Video: "Life's Lessons"	SECD Communicating & Learning module
14	Test #2	Test 2 (Multiple Choice)	SECD Ecology of Childhood module SECD Coping and Competence module SECD Communicating and Learning module

Course outline examples - Example 2

Undergraduate degree level - Foundation of human development

Course outcomes and objectives:

1. Describe the complex interplay between genetic potential and environmental experiences in shaping early brain and human development
2. Discuss the major theoretical perspectives and empirical foundations relating to early development and behaviour
3. Evaluate the strengths and limitations of the major theories of human development
4. Analyze the relationship between developmental patterns and social and economic circumstances
5. Analyze individual and population developmental pathways across diverse social and cultural environments
6. Interpret research and theory from a variety of disciplines that consider and study the course of early human development
7. Describe conception, prenatal, birth and neonatal stages of development
8. Describe early social-emotional, physical and cognitive development in context of early brain development and genetic-environment interactions
9. Discuss the influences of adults' behaviours in the child's broader environmental settings
10. Assess their own development within their own ethno-cultural and social context through self analysis and reflection
11. Analyze the impact of class, ethnicity, gender, culture and society in the human development process during early and middle childhood

Required resource: SECD – North American Edition + Child Development Primer

Week	Topic	Content	Resources
1	Introduction Course Overview Discussion of Assignments Developmental Health Perspective Research Papers Assigned	Orientation and Introductions Review of Course Outline Review of Assignments Developmental Perspective	SECD Developmental Health module
2	Developmental Health Assignment Due In Class	Developmental Health	SECD Developmental Health module
3	Theories of Child Development Theory Challenge	Various major theories in child development	SECD Child Development Primer Ecology of Childhood module
4	Theories of Child Development Research Paper Due	Various major theories in child development	SECD Child Development Primer Ecology of Childhood module
5	Brain Development	Patterns and trajectories of brain development Links between brain development and behaviour	SECD Brain Development module
6	Brain Development Brain Challenge	Internal and external factors affecting brain development <i>In-class Challenge</i>	SECD Brain Development Module
7	Conception to Birth: In the Womb Test #1	All material: Week 1-7	SECD In the Womb; Lecture Slides
8	Development and Diversity	Concepts for diversity, equity and inclusion in childhood	Slides
9	Cognitive Development Response Paper Due	In depth understanding of cognitive development	SECD Brain Development module SECD Child Development Primer
10	Cognitive Development Cognitive Challenge	Milestones of cognitive development <i>In-class Challenge</i>	SECD – Brain Development module SECD - Child Development Primer
11	Physical Development Physical Challenge	Milestones of physical development In class Challenge	SECD - Child Development Primer
12	Presentations	Student Presentations	Research Papers
13	Review Mega Challenge	<i>In-class Challenge</i>	All material: week 3-13

Course outline examples - Example 3

Graduate degree level - Psychological foundations of early development and education

Course outcomes and objectives:

1. Examine research on the psychological foundations of early child development
2. Relate those foundations to children's experiences at home, in preschool/child care, primary classes and other community settings
3. Engage in meaningful discussion about issues related to families, to programs, to professional work and to policy in early childhood

Required resource: SECD North American Edition

Week	Topic	Lecture	Resources
1	Introduction, course review	Experience based brain development	
2	Brain development overview Gene by environment in early childhood	Importance of caring and experience in early child development	SECD Brain Development pages 1, Overview; 1.1 Architecture of the brain, 2.1 Genes and environment Supplementary readings
3	Brain development: Research on sensitivity and responsiveness	Temperament	SECD Brain Development pages 2.2 Nurturing, 2.3 Stress, 2.4 Memory Supplementary readings
4	Emotional maturity, coping and competence: overview	Attachment	SECD Coping and Competence pages 1 Overview, 1.2 Individual pathways, 2. Research – social cognition Supplementary readings
5	Attachment: Working models of relationships	Gender and birth order	SECD Coping and Competence pages 2.2 Parenting, 3. Support for coping and competence 3.1 Understanding feelings and behavior Supplementary readings

Week	Topic	Lecture	Resources
6	Family structure, gender and birth order	<ol style="list-style-type: none"> 1. Self-regulation 2. Role of early experience in social competence and moderating aggression 	SECD Ecology of Childhood p. 3.1 Sustaining home life, Coping and Competence pages 2.2 Parenting, 3.3 Suomi videos Supplementary readings
7	Self-regulation	No class	SECD Coping and Competence p. 1. Self-regulation, 2.1 Early regulatory systems, 2.4 Executive function Supplementary readings
8	Social development: Social competence, aggression, adversity and resilience	The importance of play for healthy development	SECD Coping and Competence 1. Overview, 2.3 Aggression, 2.5 Adversity and resilience Supplementary readings
9	Play and healthy child development	<ol style="list-style-type: none"> 1. Inquiry approaches in early learning 2. Literacy and math 3. Instructional approaches 4. Trends in curricula 	SECD Communicating and Learning p. 1.2 Thinking and learning, 2. Communicating and learning research, 3.2 Planning environments Supplementary readings
10	Curriculum and learning	<ol style="list-style-type: none"> 1. Moderating effects in child care and transition to school 2. Impact of early learning environment on child development 3. International perspectives and integrated early childhood services 	Communicating and Learning p. 1 Overview, 1.1 Acquiring language, 2.3 Literacy, 3.1 Guiding and teaching Supplementary readings
11	Transition to school and integrated early childhood programs	EDI – SES gradients, measure of population health	SECD Ecology of Childhood p. 2.2 ECE programs, 2.3 Early interventions, 2.4 Integrated early childhood programs Supplementary readings
12	Culture and society		Ecology of Childhood p. 1. Overview, 1.1 Contexts. 2.3 Monitoring child development

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The Science of Early Child Development (SECD) is a multi-media, multi-edition interactive educational resource designed to share the science and information about the vital importance of the early years.

This User Guide is designed for those who use the SECD Projection License to facilitate workshops or training for a wide variety of audiences such as parents, students of child development and professionals in health and social science fields.

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