



# The SAGE Encyclopedia of Out-of-School Learning

## Interest and Interest-Driven Learning

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Book Title: The SAGE Encyclopedia of Out-of-School Learning  
Chapter Title: "Interest and Interest-Driven Learning"  
Pub. Date: 2017  
Access Date: March 13, 2020  
Publishing Company: SAGE Publications, Inc.  
City: Thousand Oaks,  
Print ISBN: 9781483385211  
Online ISBN: 9781483385198  
DOI: <http://dx.doi.org/10.4135/9781483385198.n146>  
Print pages: 376-379

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This entry addresses the role of people's interest in out-of-school learning contexts (including everyday experiences and hobbies) and participation in designed settings (e.g., museum exhibits) or programs (e.g., 4-H groups), although interest can be triggered and supported to develop both in school and out of school. It provides information about the definition of interest, the development of interest, and indicators for measuring interest and its change over time.

## Defining Interest

Being interested in something is rewarding. When people are interested in what they are doing, they are engaged and learning. People with a developed interest in a particular area (e.g., jewelry making, swimming, dinosaurs, or online role-playing games) enjoy the complexity associated with working on it. They persevere despite difficulty and seize opportunities that enable them to continue to develop and deepen their interest. These behaviors have led them to be described as interest driven with respect to the content of their interest. People who are interest driven with respect to one interest can also be supported to develop new interests. Their needs for each differ. To develop a new interest, they first need to make meaningful connections to the new content, whereas to continue to develop an already existing interest, they need to continue to deepen their understanding of the content.

*Interest* refers to people's psychological state during engagement and their motivational disposition to reengage specific content; in other words, it refers to the way in which they engage, work with, and/or participate in the content. Interest can be supported to develop at any age and in any learning context. As depicted in [Table 1](#), interest develops through phases: (a) triggered situational, (b) maintained situational, (c) emerging individual, and (d) well-developed individual interest.

## Table 1 Phases of Interest Development

	<i>Less-Developed (Earlier)</i>		<i>More-Developed (Later)</i>	
	<i>Phase 1: Triggered Situational Interest</i>	<i>Phase 2: Maintained Situational Interest</i>	<i>Phase 3: Emerging Individual Interest</i>	<i>Phase 4: Well-Developed Individual Interest</i>
<i>Definition</i>	<ul style="list-style-type: none"> <li>Psychological state resulting from short-term changes in cognitive and affective processing associated with a particular class of content</li> </ul>	<ul style="list-style-type: none"> <li>Psychological state that involves focused attention to a particular class of content that reoccurs and/or persists over time</li> </ul>	<ul style="list-style-type: none"> <li>Psychological state and the beginning of relatively enduring predisposition to seek reengagement with a particular class of content over time</li> </ul>	<ul style="list-style-type: none"> <li>Psychological state and a relatively enduring predisposition to reengage a particular class of content over time</li> </ul>
<i>Learner Characteristics</i>	<ul style="list-style-type: none"> <li>Attends to content, if only fleetingly</li> <li>May or may not be reflectively aware of the experience</li> <li>May need support to engage from others and through instructional design</li> <li>May experience either positive or negative feelings</li> </ul>	<ul style="list-style-type: none"> <li>Reengages content that previously triggered attention</li> <li>Is developing knowledge of the content</li> <li>Is developing a sense of the content's value</li> <li>Is likely to be supported by others to find connections to content based on existing skills, knowledge, and/or prior experience</li> <li>Is likely to have positive feelings</li> </ul>	<ul style="list-style-type: none"> <li>Is likely to independently reengage content</li> <li>Has stored knowledge and stored value</li> <li>Is reflective about the content</li> <li>Is focused on their own questions</li> <li>Has positive feelings</li> </ul>	<ul style="list-style-type: none"> <li>Independently reengages content</li> <li>Has stored knowledge and value</li> <li>Is reflective about the content</li> <li>Is likely to recognize others' contributions to the discipline</li> <li>Self-regulates easily to reframe questions and seek answers</li> <li>Appreciates and may actively seek feedback</li> <li>Can persevere through frustration and challenge in order to meet goals</li> <li>Has positive feelings</li> </ul>

Earlier phases of interest development are those in which a person is in the process of making connections to content (triggered situational interest and maintained situational interest) and may not even realize that the content could be an area of interest. In the later phases of interest development (emerging individual interest and well-developed individual interest), a person has already made connections to the content and is ready to develop his or her skills or technique and to extend present understanding. The following scenario, based on a real case involving 16-year-old Mira (a pseudonym), shows how this occurs.

Mira knew from her school friends there was a makerspace at the local museum. Makerspaces are locations sometimes found in museums, libraries, and schools, which are staffed and stocked to support the creation and sharing of projects made with tools such as 3D printers, sewing machines, or soldering irons.

Mira had been on Tumblr (a blogging site full of short, visual-heavy posts) and had seen images of sound wave jewelry. An artist created necklaces where a sound wave became a bead pendant. Mira took this idea to the makerspace staff with a question: Can I do this, too? Mira did not identify as a programmer but knew that some programming would be necessary to make her 3D-printed sound.

Mira knew that sound waves could be captured by a microphone in a computer. She was able to capture the sound waves she wanted by using a software called Audacity. She recorded the word *makerspace*. The Audacity file was a single squiggle on her screen that could be played back, but

she needed to figure out a way to make this sound wave into a three-dimensional form. She needed to import the data into another program to make it 3D, and over the course of a week, with the help of one of the staff members, she worked to transfer the audio file and code it into a printable model. The staff member suggested projecting the code, with the result that coders walking by stopped, asked what was going on, and occasionally offered suggestions. The staff member did the coding, but Mira was involved in the discussion of ideas, asked questions, and began thinking about this project even when there were other exciting things happening. Once the file was complete, she and the staff member sent it to the 3D printer.

Mira was left with a tangible representation of her voice saying the word *makerspace* and the knowledge of how to 3D print any other sound. Through the conversations at the makerspace, she had also gathered a group of other like-minded peers to start generating ideas for a new project; ideas ranged from DNA jewelry to novel uses of heart sensors and Braille.

Mira's interest is in the early phases of being developed; hers is a less developed, or situational, interest that is in the process of developing. Mira came to the makerspace with a project she wanted to make. Her interest was triggered by the Tumblr post in at least two ways: (1) seeing the sound wave jewelry was something novel and (2) she knew that her friends were doing 3D printing in the makerspace that she thought sounded "cool" even though she did not have much understanding of what it involved.

The people in the makerspace and the requirements for printing provided Mira with essential scaffolding to develop her interest. Once Mira inquired about working on the project and received affirmation about its possibility, her interest was at least temporarily sustained. The staff member's help with programming was essential, and following the projection of her code, she began learning even more about the project she was working on. Even though she needed help with programming, she had developed a general understanding of the coding needed to create the 3D shape from the sound wave. She had learned how to use the 3D printer to make a tangible plastic shape out of an intangible spoken word. She was also supported to develop a network of peers who had similar interests.

Mira returned to working on the printing without prompting. However, she is not yet systematically tinkering to find her own answers or redefining her goals as she learns more. Behaviors such as these would signal that her interest was becoming more developed. In summary, her interest describes the way in which Mira participates in the makerspace. It describes both her cognitive and affective experiences, or psychological state, as she engages, as well as her motivation to continue to return to working on understanding the programming that will enable her to make jewelry. Her interest evolves in relation to the interactions she has with the environment—the support of the staff member, her peers, and the requirements of coding needed for printing.

## Developing Interest

Interest develops through a process during which attention is triggered. The triggering of a person's attention may be fleeting, but it can also be sustained. If sustained, it provides a basis for subsequent or continued interest development. Triggers for interest either (a) interrupt or change present understanding (e.g., the introduction of surprise, uncertainty, complexity, novelty, or challenge) or (b) heighten the likelihood that a person can make new connections to the content of interest (e.g., support to recognize relevance, utility, personalization, or feelings of belonging). The triggering process supports the continued development and deepening of interest. However, although the same triggers (e.g., novelty) support the development of interest, for those with less or more interest, the substance of the trigger needs to vary. What is novel for the person with less developed interest is typically not novel for the person with more developed interest. Whereas persons with less developed interest need to make connections to the content of the interest, persons with more developed

interest have already made these connections and are ready to stretch their understanding of the content. Had Mira already known how to model 3D shapes on the computer, she might not have needed the support of a staff member in coding, although it is also possible that a staff member might have encouraged her to try some alternate to the code she knew which could have led her to further develop her interest.

Humans are hardwired to engage in seeking behavior and to want to learn and do new things by participating. However, people who have little background knowledge or experience with something such as 3D printing (or science, playing tennis, appreciating new art forms, etc.) may need the support to engage with it and to know that they can learn what is needed to participate. They also may not realize that they need support. They may assume that they just are not able to do something, that they are not a person who can program, do science, appreciate art, and so on.

In the early phases of interest development, people are not likely to identify with a content of a less developed interest as a potential interest; they are neither likely to think that they could develop an interest in the content (to feel self-efficacy) nor likely to be able to organize their behaviors to do so (to self-regulate). To develop a new interest, or for something that was explicitly not an interest to be supported to become an interest, their interest needs to be both triggered and sustained. They may need scaffolding from other people to find connections to the content. It is also possible for an existing interest to trigger the development of a new interest. For example, an interest in creating videos about 3D jewelry might develop out of Mira's involvement in the makerspace.

Interest develops not only in a single context such as a makerspace but also more typically in and through engagement in multiple contexts. Structured environments in libraries, museums, summer camps, and after-school programs can provide support for sustaining interest that has been triggered; mentor–mentee relationships also contribute to sustaining as well as the development of interest. When multiple contexts allow for the development of a specific interest, more opportunities are provided for that interest to develop. Targeted support for interest development across different contexts (e.g., across after-school programming, library programs, 4-H programming, job internships in the community) can be particularly important for those whose family background, neighborhood, school, and so on have limited access to a breadth of possible topics of interest and paths into these. Support for the triggering and continued development of interest across the contexts in which a person is involved increases the possibility that an interest that is triggered will be sustained and can develop.

The difference between those with a well-developed interest and those with a less developed interest is their readiness to engage content independently and also the depth of the content with which they are ready to work. Persons with more developed interest need to continue to stretch their content knowledge, whether this is through their own seeking of additional information and generation of questions and/or support from others or models to deepen their understanding of the content. They usually identify with others who pursue the content of interest (e.g., artists who make jewelry, musicians, soccer players), feel self-efficacious, and are able to self-regulate their abilities to work with the content.

The use of the word *can* is intentional in discussing the development of interest. Interest can develop, and it also may not. Whether interest develops depends on the types of supports and opportunities that are available to a person (and/or whether a person is able to recognize the presence of opportunities and supports that are available and make use of them). Similarly, in describing the developmental process, the word *phases* is used rather than *stages*. Movement through the four phases of interest is always sequential. However, interest may plateau and/or it is possible for interest to fall off, depending on people's perceptions of their engagement. When people feel that they cannot do something like programming or, alternatively, believe that they have learned all that they can, their interest is likely to wane. In such situations, continued development of interest may usefully involve engaging with other people who think with them about their involvement and who are in a position to provide models, challenges, and/or information and opportunities that can encourage the continued development of their interest.

## Measuring Interest

Although *liking* is often associated with interest in everyday usage, it does not reliably distinguish between earlier and later phases in its development. It is possible for a person in an earlier phase of interest development to like the content in which they are developing an interest, and also for persons who have a more developed interest to like what they are doing. Distinguishing between those with less and more interest is essential for group leaders, designers, and evaluators in out-of-school environments because differences in the phase of a person's interest influence the support that the person needs to be able to continue engagement. It is possible to identify whether a person has a less or a more developed interest by evaluating a person's behavioral engagement with the interest:

1. *Frequent*: Does the person return to the engagement over time relative to the other things in which he or she is engaged?
2. *Deep*: Does the person engage in deeper learning with the content relative to his or her engagement with other content?
3. *Voluntary*: Given the opportunity, will the person make a choice to engage this content rather than other content?
4. *Independent*: Given the opportunity, will the person opt to work independently with the content?

For the makerspace staff member, coach, or museum docent, this information can be gained by watching participants and then using it to inform the types of triggers and scaffolding that they can provide.

For research and/or evaluation purposes, these four behavioral indicators can together be adapted for use to assess participant interest in different content and contexts. They have been employed in self-report assessments such as surveys and interviews and used in observational protocols and log file analysis. These indicators have also been used to identify less and more developed interest in children as young as 3 years of age (using video analysis of ongoing behavior) and with teachers online (using surveys, log file analysis, and interviews).

A more nuanced assessment of each of the four phases of interest development may also be undertaken and may be warranted depending on researchers' questions. However, because the trajectory of interest development is idiosyncratic and can vary in its timing, researchers conducting studies with large numbers of participants often opt to work with the more general categorization of less and more developed interest.

**See also** [Connected Learning](#); [Hobbies](#); [Learner-Centered Paradigms](#); [Lifelong and Lifewide Science Learning](#); [Motivation in Out-of-School Learning](#); [Participation and Engagement](#); [Self-Directed Learning](#)

- jewelry
- out-of-school
- staff
- Four-H
- museums
- scaffolding
- support staff

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<http://dx.doi.org/10.4135/9781483385198.n146>  
10.4135/9781483385198.n146

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