

# What Works Clearinghouse



## An Ethics Curriculum for Children

**Program description** *An Ethics Curriculum for Children*, a read-aloud literature-based curriculum, aims to teach elementary school students seven universal attributes of good character. Lessons and home assignments are organized around multicultural stories. The program activities are designed to connect the experiences of characters in the stories to students' own lives. *An Ethics Curriculum for Children* also includes integration of character education themes across curricular topics and parental notification and involvement, optional parts of the implementation of this program.

**Research** One study of *An Ethics Curriculum for Children* met the WWC evidence standards with reservations. This study included nearly 1,000 elementary students attending semirural school districts in western Pennsylvania and southern Illinois. The study examined effects on students' behavior and knowledge, attitudes, and values.<sup>1</sup>

**Effectiveness** *An Ethics Curriculum for Children* was found to have no discernible effects on behavior or on knowledge, attitudes, and values.

	<i>Behavior</i>	<i>Knowledge, attitudes, and values</i>	<i>Academic achievement</i>
<b>Rating of effectiveness</b>	No discernible effects	No discernible effects	Not reported
<b>Improvement index<sup>2</sup></b>	Average: 0 percentile points Range: -4 to +4 percentile points	Average: +5 percentile points Range: -8 to +14 percentile points	Not reported

1. The evidence presented in this report is based on the available research. Findings and conclusions may change as new research becomes available.  
 2. These numbers show the average and the range of improvement indices, for all findings across the two subsamples in the study. The range is based on variations in grade level. The improvement index for grades 1-3 is -4 and for grades 4-6 is +4 percentile points.

## Additional program information

### Developer and contact

Heartwood Institute, 425 North Craig Street, Suite 302, Pittsburgh, PA 15213. Web: [www.heartwoodethics.org](http://www.heartwoodethics.org). Email: [hrtwood@heartwoodethics.org](mailto:hrtwood@heartwoodethics.org). Telephone: 800-432-7810.

### Scope of use

*An Ethics Curriculum for Children*, created in the early 1990s, has been used in more than 1,500 schools in 40 states. Information is not available about the characteristics of students, schools, or districts using the curriculum. *An Ethics Curriculum for Children* may have changed since the study was conducted. The WWC recommends asking the developer for information about the most current version of this curriculum and taking into account that student demographics and school context may affect outcomes.

### Teaching

Each of the six elementary curriculum kits includes 14 lessons, with two lessons for each of the seven core attributes. Each lesson includes reading an illustrative story aloud, class discussion, reflective journaling, and small-group or individual activities. The developers suggest creating a comfortable story corner for children in the classroom. They estimate that two to four weeks are needed for children to assimilate each attribute. Teachers are encouraged to extend the lessons from the stories to other subject matter. The curriculum manual offers ideas for planning lessons and integrating character education-based

activities across academic areas. Teachers can engage parents and families through family orientation meetings or by sending a letter home that explains the program.

Curriculum kits provide the materials to implement the curriculum. A Spanish kit with Spanish language materials is available for use in kindergarten through grade three. Supplemental materials—such as posters, maps, buttons, and music CDs—can be obtained through the Heartwood Institute’s website at [www.heartwoodethics.org/](http://www.heartwoodethics.org/). The Institute offers teaching manuals, teaching videos, a do-it-yourself training module that includes videos, and both a half-day and a full-day on-site professional development workshop led by a Heartwood staff trainer. A help desk, staffed by teachers with experience implementing the curriculum in the classroom, is available three days a week.

### Cost

Curriculum kits are sold in sets that cover two grades per set (PreK/K, K/1, 1/2, 2/3, 3/4, 4/5, and 5/6) and cost \$438 plus a 9% shipping and handling charge. Kits for grades 4–6 cost \$448 plus shipping and handling. The Spanish kit (grades K–3) costs \$495. Various training workshops are available, including half-day and full-day workshops ranging from \$750 to \$2,000. *Do-It-Yourself Training for Teachers* (\$29.95) provides a scripted training program with instructions. The book *A Lesson in Character*, designed as a primer for teaching *An Ethics Curriculum for Children*, is available for \$9.95 per grade.

## Research

Three studies reviewed by the WWC investigated the effects of *An Ethics Curriculum for Children*. One study (Leming, 2000) was a quasi-experimental design that met WWC evidence standards with reservations. The other two studies did not meet WWC evidence screens. The Leming study included 965 elementary school students in semi-rural school districts in western

Pennsylvania and southern Illinois. It compared outcomes for students participating in *An Ethics Curriculum for Children* program with outcomes for students in comparison classes that did not use a character education curriculum. The study focused on *An Ethics Curriculum for Children* as implemented in classrooms rather than as a schoolwide intervention.

## Effectiveness Findings

The WWC review of character education addresses student outcomes in three domains: behavior; knowledge, attitudes, and values; and academic achievement.

*Behavior.* On one behavioral measure, ethical conduct, the study reported a statistically significant worse outcome for students in grades 1–3 using *An Ethics Curriculum for Children* (compared with the group that did not receive the curriculum) and a statistically significant better outcome for the students in grades 4–6 using *An Ethics Curriculum for Children*. However, the differences for students in grades 1–3 and for students in grades 4–6 (as calculated by the WWC) were neither statistically significant nor large enough to be considered substantively important using WWC criteria.<sup>3</sup> On a second behavioral measure (simulated cheating), there were no statistically significant or substantively important differences for either grade range. Another behavioral measure, school disciplinary reports, was also included in the study, but the results were presented only at the aggregate school level and could not be compared in a way that met WWC evidence standards. So this measure was not included in the review.

*Knowledge, attitudes, and values.* For grades 1–3, Leming reported statistically significant better outcomes for students using *An Ethics Curriculum for Children* on two character-related measures (ethical understanding and ethnocentrism) and no statistically significant difference on a third (ethical sensibility). For grades 4–6 statistically significant better outcomes were reported for students using *An Ethics Curriculum for Children* on one measure (ethical understanding), a statistically significant worse outcome on a second (ethical sensibility), and no difference on the third (ethnocentrism). The differences (as calculated by the WWC) in this domain were neither statistically significant nor large enough to be considered substantively important.<sup>3</sup>

### Rating of effectiveness

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings (as calculated by the WWC), the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the [WWC Intervention Rating Scheme](#)).

**The WWC found *An Ethics Curriculum for Children* to have no discernible effects on behavior or on knowledge, attitudes, and values**

### Improvement index

For each outcome domain, the WWC computed an improvement index based on the average effect size (see the [WWC Improvement Index Technical Paper](#)). The improvement index represents the difference between the percentile rank of the average student in the intervention condition and the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is based entirely on the size of the effect regardless of the statistical significance of the effect, study design, or analysis. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results. The average improvement index for behavior is 0 percentile points with a range of –4 to +4 percentile points across findings. The average improvement index for knowledge, attitudes, and values is 5 percentile points, with a range of –8 to +14 percentile points across findings.

### Summary

The WWC reviewed three studies on *An Ethics Curriculum for Children*. One study met WWC evidence standards with reservations. It reported student outcomes in the behavior and attitudes, knowledge, and values domains for students in grades 1–3 and students in grades 4–6 separately. None of the WWC-computed overall effect sizes were statistically significant or large enough to be substantively important. So the WWC rated the program as having no discernible effects in the behavior or the knowledge, attitudes, and values domains. Character education, an evolving field, is beginning to establish a research base. The evidence presented in this report is limited and may change as new research emerges.

3. The level of statistical significance was calculated by the WWC and where necessary, corrects for clustering within classrooms or schools, and for multiple comparisons. For an explanation see the [WWC Tutorial on Mismatch](#). See the [WWC Intervention Rating Scheme](#) for the formulas the WWC used to calculate the statistical significance. In the case of the *Ethics Curriculum* report, corrections for clustering and multiple comparisons were needed.

## References **Met WWC evidence standards with reservations**

Leming, J. S. (2000). Tell me a story: An evaluation of a literature-based character education programme. *Journal of Moral Education*, 29, 413–427.

### **Additional citations**

Leming, J., Henricks-Smith, A., & Antis, J. (1997). An evaluation of the Heartwood Institute's *An Ethics Curriculum for Children: Final report*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. (Revised 4/1/2000).

Leming, J. S., & Silva, D. Y. (2001). A five year follow-up evaluation of the Heartwood Ethics curriculum on the

development of children's character. Retrieved from [http://www.heartwoodethics.org/docs/Heartwood\\_5\\_Year\\_Report.pdf](http://www.heartwoodethics.org/docs/Heartwood_5_Year_Report.pdf)

### **Did not meet WWC evidence screens**

Buttram, J. L., Kruse, J., & Silder, J. (1992). *Evaluation of the Heartwood Program: Final report*. Philadelphia, PA: Research for Better Schools, Inc.<sup>4</sup>

Piscolith, M. (1991). *Heartwood Program pilot year evaluation: 1990–91 full report*. Pittsburgh, PA: Pittsburgh Board of Public Education.<sup>5</sup>

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**For more information about specific studies and WWC calculations, please see the [WWC Ethics Curriculum Technical Appendices](#).**

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4. Did not meet WWC evidence screens because study sample is not relevant; it did not assess student outcomes.

5. Did not meet WWC evidence screens because study did not use a comparison group.

# Appendix

## Appendix A1 Study characteristics: Leming, 2000 (quasi-experimental design)

Characteristic	Description
<b>Study citation</b>	Leming, J. S. (2000). Tell me a story: An evaluation of a literature-based character education programme. <i>Journal of Moral Education</i> , 29, 413–427.
<b>Participants</b>	The study included 965 students in grades 1–6 from four schools in two school districts. The student population in one school district was 95.6% Caucasian, with 25% receiving free or reduced-price lunch. The student population in the two participating schools in the other school district was 85.6% Caucasian, with 50% receiving free or reduced-price lunch.
<b>Setting</b>	Two participating schools (one intervention, one comparison) were in a mid-sized, semirural school district in western Pennsylvania; the other two participating schools (one intervention, one comparison) were in a small, semirural school district in southern Illinois. The comparison students were drawn from matched schools in the same school districts as the intervention students.
<b>Intervention</b>	The intervention group participated in <i>Heartwood Ethics Curriculum for Children</i> for the course of an academic school year. The literature-based program used folktales, folklore, and fairy tales to teach seven core values. Lessons included an opening discussion, story, discussion questions, reinforcement activity, and writing about the concept.
<b>Comparison</b>	No information was provided on comparison students other than they did not receive <i>Heartwood Ethics Curriculum for Children</i> .
<b>Primary outcomes and measurement</b>	The study-specific measures addressed understanding of the curriculum’s seven core values (ethical understanding), preferences for exemplifying core values (ethical sensibility), behavior related to core values (ethical conduct), and affinity for ethnically diverse children (ethnocentrism). The measures were developed for this study to measure specific outcomes. (See Appendices A2.1 and A2.2.)
<b>Teacher training</b>	Teachers implementing <i>Heartwood Ethics Curriculum for Children</i> attended a half-day training course before the start of the school year.

## Appendix A2.1 Outcome measures in the behavior domain

Outcome measure	Description
<b>Ethical conduct</b>	Ratings by teachers of character-related behavior for individual students. This measure uses a five-point Likert-type scale developed by the author (as cited in Leming, 2000).

## Appendix A2.2 Outcome measures in the knowledge, attitudes, and values domain

Outcome measure	Description
<b>Ethical understanding</b>	Responses to questionnaire items developed by the author about the meaning of the curriculum's seven core attributes: courage, honesty, hope, justice, love, loyalty, and respect. Grades 1–3 used 14 items in multiple choice format (two possible answers); grades 4–6 used a sentence completion format for testing understanding of the seven attributes (as cited in Leming, 2000).
<b>Ethical sensibility</b>	Responses to questionnaire items developed by the author that asked about agreement with or valuing of the curriculum's seven core attributes: courage, honesty, hope, justice, love, loyalty, and respect. Grades 1–3 used a test of the student's agreement with 20 "I would" statements (e.g., "I would tell them to stop") with three levels of response (yes, no, not sure). Grades 4–6 used the same 20 items with a five-level Likert-type scale (as cited in Leming, 2000).
<b>Ethnocentrism</b>	Ratings of social distance, measured by photographs of ethnically diverse children for whether the student would like to have them as a friend; used with white students only. This measure was adapted from the Social Distance Measure (as cited in Leming, 2000).

## Appendix A3.1 Summary of study findings included in the rating for the behavior domain<sup>a</sup>

Outcome measure <sup>d</sup>	Study sample	Sample size (classrooms/ students)	Author's findings from the study		WWC calculations			
			Mean outcome <sup>b</sup> (standard deviation <sup>c</sup> )		Mean difference <sup>e</sup> (column 1– column 2)	Effect size <sup>f</sup>	Statistical significance <sup>g</sup> (at $\alpha = 0.05$ )	Improvement index <sup>h</sup>
			<i>Ethics Curriculum for Children</i> group (column 1)	Comparison group (column 2)				
Leming, 2000 (quasi-experimental design)								
Ethical conduct	Grades 1–3	4/485	67.93 (11.54)	69.09 (14.10)	–1.16	–0.09	ns	–4
<b>Average<sup>i</sup> for behavior (Leming, 2000: Grades 1–3)</b>						–0.09	ns	–4
Ethical conduct	Grades 4–6	4/385	64.48 (12.79)	63.20 (12.54)	+1.28	0.10	ns	+4
<b>Average<sup>i</sup> for behavior (Leming, 2000: Grades 4–6)</b>						0.10	ns	+4
<b>Domain average<sup>i</sup> for behavior across all studies</b>						0.01		0

ns=not statistically significant

- a. This appendix reports findings considered for the effectiveness rating and the improvement index.
- b. The study author adjusted the means for pretest differences between groups.
- c. The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
- d. The study author analyzed two additional outcomes in this domain (cheating on drawing task grades 1–3, cheating on drawing task grades 4–6) but did not provide means or standard deviations, so they are not listed in this table. None of the three outcomes was statistically significant.
- e. Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group.
- f. For an explanation of the effect size calculation, please see the [WWC Technical Working Paper on Effect Size](#).
- g. Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between groups. The level of statistical significance was calculated by the WWC and where necessary, corrects for clustering within classrooms or schools, and for multiple comparisons. For an explanation, see the [WWC Tutorial on Mismatch](#). See the [WWC Intervention Rating Scheme](#) for the formulas the WWC used to calculate the statistical significance. In the case of the *Ethics Curriculum* report, corrections for clustering and multiple comparisons were needed.
- h. The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results.
- i. The WWC-computed average effect sizes for each study and for the domain across studies are simple averages rounded to two decimal places. The average improvement indices are calculated from the average effect sizes.

## Appendix A3.2 Summary of study findings included in the rating for the knowledge, attitudes, and values domain<sup>a</sup>

Outcome measure <sup>d</sup>	Study sample	Sample size (classrooms/ students)	Author's findings from the study		WWC calculations			
			Mean outcome <sup>b</sup> (standard deviation <sup>c</sup> )		Mean difference <sup>e</sup> (column 1– column 2)	Effect size <sup>f</sup>	Statistical significance <sup>g</sup> (at $\alpha = 0.05$ )	Improvement index <sup>h</sup>
			<i>Ethics Curriculum for Children</i> group (column 1)	Comparison group (column 2)				
Leming, 2000 (quasi-experimental design)								
Ethical understanding	Grades 1–3	4/482	23.35 (2.01)	22.75 (1.93)	0.60	0.31	ns	+12
Ethnocentrism	Grades 1–3	4/447	28.10 (24.58)	33.97 (25.54)	5.87	0.23	ns	+9
Ethical sensibility	Grades 1–3	4/479	51.84 (6.87)	52.18 (6.34)	–0.34	–0.05	ns	–2
<b>Average<sup>i</sup> for knowledge, attitudes, values (Leming, 2000: Grades 1–3)</b>						0.16	ns	+6
Ethical sensibility	Grades 4–6	4/369	75.09 (11.57)	77.30 (10.30)	2.21	0.20	ns	+14
Ethical understanding	Grades 4–6	4/376	14.41 (2.44)	13.54 (2.57)	–0.87	–0.35	ns	–8
<b>Average<sup>i</sup> for knowledge, attitudes, values (Leming, 2000: Grades 4–6)</b>						0.07	ns	+3
<b>Domain average<sup>i</sup> for knowledge, attitudes, values across all studies</b>						0.12		+5

ns = not statistically significant

- This appendix reports findings considered for the effectiveness rating and the improvement index.
- The study author adjusted the means for pretest differences between groups except for one outcome (ethical understanding for grades 4–6).
- The standard deviation across all students in each group shows how dispersed the participants' outcomes are: a smaller standard deviation on a given measure would indicate that participants had more similar outcomes.
- The study author analyzed one additional outcome in this domain (ethnocentrism grades 4–6) but did not provide means or standard deviations, so it is not listed in this table. The outcome was not statistically significant.
- Positive differences and effect sizes favor the intervention group; negative differences and effect sizes favor the comparison group. The sign of the mean difference for ethnocentrism scores was reversed because greater ethnocentrism was considered a negative outcome.
- For an explanation of the effect size calculation, please see the [WWC Technical Working Paper on Effect Size](#).
- Statistical significance is the probability that the difference between groups is a result of chance rather than a real difference between groups. The level of statistical significance was calculated by the WWC and where necessary, corrects for clustering within classrooms or schools, and for multiple comparisons. For an explanation, see the [WWC Tutorial on Mismatch](#). See the [WWC Intervention Rating Scheme](#) for the formulas the WWC used to calculate the statistical significance. In the case of the *Ethics Curriculum* report, corrections for clustering and multiple comparisons were needed.
- The improvement index represents the difference between the percentile rank of the average student in the intervention condition and that of the average student in the comparison condition. The improvement index can take on values between –50 and +50, with positive numbers denoting favorable results.
- The WWC-computed average effect sizes for each study and for the domain across studies are simple averages rounded to two decimal places. The average improvement indices are calculated from the average effect sizes.

## Appendix A4.1 Rating for the behavior domain

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.<sup>1</sup>

For the outcome domain of behavior, the WWC rated *Heartwood Ethics Curriculum for Children* as having no discernible effects. It did not meet the criteria for positive effects, because it only had one study. In addition, it did not meet the criteria for other ratings (potentially positive effects, mixed effects, potentially negative effects, and negative effects) because none of the studies showed statistically significant or substantively important effects.

### Rating received

**No discernible effects:** No affirmative evidence of effects.

- Criterion 1: None of the studies shows a statistically significant or substantively important effects, either positive or negative.

**Met.** The WWC analysis found no statistically significant or substantively important effects in this domain.

### Other ratings considered

**Positive effects:** Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a strong design.

**Not met.** The WWC analysis found no statistically significant positive effects in this domain. *Heartwood Ethics Curriculum for Children* had only one evaluation study meeting WWC evidence standards that reported findings on behavior, and so did not meet this criterion. Further, that study did not meet WWC evidence standards for a strong design.

- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.

**Met.** The WWC analysis found no statistically significant or substantively important negative effects in this domain.

**Potentially positive effects:** Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect, thus qualifying as a *positive* effect.

**Not met.** The WWC analysis found no statistically significant or substantively important positive effects in this domain.

- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect. Fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

**Not met.** No studies showed a statistically significant or substantively important negative effect. Because one study showed indeterminate effects and no studies showed statistically significant or substantively important positive effects, *Heartwood Ethics Curriculum for Children* did not meet this criterion.

(continued)

## Appendix A4.1 Rating for the behavior domain *(continued)*

**Mixed effects:** Evidence of both positive and negative effects.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect. At least one study showing a statistically significant or substantively important *negative* effect, but no more such studies than the number showing a statistically significant or substantively important *positive* effect.

**Not met.** The WWC analysis found no statistically significant or substantively important positive or negative effects in this domain.

- Criterion 2: At least one study showing a statistically significant or substantively important effect, and more studies showing an indeterminate effect than showing a statistically significant or substantively important effect.

**Not met.** The WWC analysis found no statistically significant or substantively important effects in this domain.

**Potentially negative effects:** Evidence of a negative effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *negative* effect. No studies showing a statistically significant or substantively important *positive* effect, or more studies showing statistically significant or substantively important *negative* effects than showing statistically significant or substantively important *positive* effects.

**Not met.** The WWC analysis found no statistically significant or substantively important negative effects in this domain.

**Negative effects:** Strong evidence of a negative effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *negative* effects, at least one of which is based on a strong design.

**Not met.** The WWC analysis found no statistically significant negative effects in this domain.

- Criterion 2: No studies showing statistically significant or substantively important *positive* effects.

**Met.** The WWC analysis found no statistically significant or substantively important positive effects in this domain.

1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain level effect. The WWC also considers the size of the domain level effect for ratings of potentially positive effects. See the [WWC Intervention Rating Scheme](#) for a complete description.

## Appendix A4.2 Rating for the knowledge, attitudes, and values domain

The WWC rates interventions as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative.<sup>1</sup>

For the outcome domain of knowledge, attitudes, and values, the WWC rated *An Ethics Curriculum for Children* as having no discernible effects. It did not meet the criteria for positive effects, because it only had one study. In addition, it did not meet the criteria for other ratings (potentially positive effects, mixed effects, potentially negative effects, and negative effects) because none of the studies showed statistically significant or substantively important effects.<sup>2</sup>

### Rating received

**No discernible effects:** No affirmative evidence of effects.

- Criterion 1: None of the studies shows a statistically significant or substantively important effect, either positive or negative.

**Met.** The WWC analysis found no statistically significant or substantively important effects in this domain.

### Other ratings considered

**Positive effects:** Strong evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *positive* effects, at least one of which met WWC evidence standards for a strong design.

**Not met.** The WWC analysis found no statistically significant positive effects in this domain. *An Ethics Curriculum for Children* had only one evaluation study meeting WWC evidence standards that reported findings on knowledge, attitudes, and values, and so did not meet this criterion. Further, that study did not meet WWC evidence standards for a strong design.

- Criterion 2: No studies showing statistically significant or substantively important *negative* effects.

**Met.** The WWC analysis found no statistically significant or substantively important negative effects in this domain.

**Potentially positive effects:** Evidence of a positive effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect, thus qualifying as a *positive* effect.

**Not met.** The WWC analysis found no statistically significant or substantively important positive effects in this domain.

- Criterion 2: No studies showing a statistically significant or substantively important *negative* effect. Fewer or the same number of studies showing *indeterminate* effects than showing statistically significant or substantively important *positive* effects.

**Not met.** No studies showed a statistically significant or substantively important negative effect. Because one study showed indeterminate effects and no studies showed statistically significant or substantively important positive effects, *An Ethics Curriculum for Children* did not meet this criterion.

(continued)

## Appendix A4.2 Rating for the knowledge, attitudes, and values domain *(continued)*

**Mixed effects:** Evidence of both positive and negative effects.

- Criterion 1: At least one study showing a statistically significant or substantively important *positive* effect. At least one study showing a statistically significant or substantively important *negative* effect, but no more such studies than the number showing a statistically significant or substantively important *positive* effect.

**Not met.** The WWC analysis found no statistically significant or substantively important positive or negative effects in this domain.

- Criterion 2: At least one study showing a statistically significant or substantively important effect, and more studies showing an indeterminate effect than showing a statistically significant or substantively important effect.

**Not met.** The WWC analysis found no statistically significant or substantively important effects in this domain.

**Potentially negative effects:** Evidence of a negative effect with no overriding contrary evidence.

- Criterion 1: At least one study showing a statistically significant or substantively *negative* effect. No studies showing a statistically significant or substantively important *positive* effect, or more studies showing statistically significant or substantively *negative* effects than showing statistically significant or substantively important *positive* effects.

**Not met.** The WWC analysis found no statistically significant or substantively negative effects in this domain.

**Negative effects:** Strong evidence of a negative effect with no overriding contrary evidence.

- Criterion 1: Two or more studies showing statistically significant *negative* effects, at least one of which is based on a strong design.

**Not met.** The WWC analysis found no statistically significant negative effects in this domain.

- Criterion 2: No studies showing statistically significant or substantively important *positive* effects.

**Met.** The WWC analysis found no statistically significant or substantively important positive effects in this domain.

1. For rating purposes, the WWC considers the statistical significance of individual outcomes and the domain level effect. The WWC also considers the size of the domain level effect for ratings of potentially positive effects. See the [WWC Intervention Rating Scheme](#) for a complete description.