

Trade After Class: learning to explain risk without rewarding speculation

Financial education has a credible general evidence base, but a brief allocation exercise is a distinct intervention. A historical school program provides encouraging evidence about a package of simulation and instruction.

Research by Education Angel Group. Last substantive review: September 19, 2026.

Education Angel Group is developing Trade After Class and has an interest in the proposed product. This review does not establish its effectiveness.

Prepared by Education Angel Group (EAG), with AI-assisted research and drafting. Research date: September 19, 2026. EAG is developing Trade After Class and has an interest in its success. This is a focused research report, not an independent evaluation, investment recommendation or evidence that the proposed product works.

1. Proposition, audience and present limits

Trade After Class is a proposed school-safe simulation for practicing reasoning about risk, uncertainty and alternatives. Its first proposed learning job is to explain concentration risk by revising one fictional allocation. A learner would distribute fictional funds among three explicitly synthetic holdings, advance one disclosed event, inspect the resulting allocation and explanation, and revise both the allocation and the reasoning. Exact holdings, starting amounts, event rules, rounding and feedback remain design decisions. This report neither chooses those rules nor establishes that the experience has been implemented. EAG product authority, AO

The intended audience includes learners practicing a concept and teachers or caregivers deciding whether the exercise fits their setting. Their jobs differ. The learner needs understandable choices, recoverable work and feedback that explains consequences. The adult needs to know what is being taught, what assistance is required and what the simulation might accidentally imply. A content operator would need to maintain the authored model and explain corrections. Age range and prerequisite numeracy remain unresolved, so this report cannot claim suitability for every grade.

Overview. Financial education has a credible general evidence base, but a brief allocation exercise is a distinct intervention. A historical school program provides encouraging evidence about a package of simulation and instruction. A more recent adult experiment provides a serious caution against assuming that simulated experience improves risk perception. The defensible next question is whether this particular lesson improves explanation on an unfamiliar scenario without increasing unjustified confidence. Maximizing a fictional balance is not that outcome.

The learning boundary is also the product boundary. There is no real money, securities execution, brokerage, custody, personalized advice, forecast, ranking or reward economy in the proposed slice. A simulated result must not become a student eligibility signal or a recommendation to invest. Runstr may supply identity if an account becomes necessary, but shared sign-in does not import its points, prizes, school resources or supporter relationships. Anonymous practice does not inherently require an account. A0

2. Questions and standards of evidence

The governing question is: can a simulated allocation teach risk reasoning without encouraging speculation or false confidence? Five more precise questions make it answerable:

1. Which concept can a learner explain after the lesson, beyond repeating its vocabulary?
2. Does making and revising an allocation add value over the same explanation and result table?
3. Can the learner apply the reasoning to a new case with different labels and consequences?
4. Does the exercise preserve awareness that its event was authored and does not predict markets?
5. Can learners and adults complete it with acceptable effort, access and privacy?

These questions require different evidence. Correct arithmetic is necessary for a trustworthy simulation, but says nothing about learning. Completion can reveal usability, but may reflect guessing. A polished explanation may have been copied. Confidence can rise even when understanding does not. Conversely, a learner who identifies a limitation and becomes less certain may have learned something valuable.

This report therefore uses an evidence hierarchy tied to the decision. Research on financial education establishes category plausibility. Research on specific simulations tests particular mechanisms under particular conditions. Official investor education helps establish conceptual boundaries. First-party teaching resources establish existing alternatives. EAG product definition establishes intended scope. None of those sources is a substitute for observing Trade After Class learners, and no such observation was collected for this report.

The most useful uncertainty is not whether every simulation works. It is whether an interactive allocation makes this bounded lesson easier to understand than a simpler activity. If the answer is no, the explanatory lesson may still be useful while the simulation adds unnecessary work. That possibility should remain an acceptable result of evaluation.

3. Need and context: reasoning before a financial outcome

The educational problem is understanding how exposure to an authored event changes with allocation, while recognizing what the model leaves unknown. It is not a documented shortage of trading products. No reviewed source estimates unmet demand for this particular experience among Arkansas students, and no interviews establish that teachers want another financial-literacy tool.

Kaiser, Lusardi, Menkhoff and Urban synthesized randomized financial-education experiments and found positive average effects on knowledge and downstream behaviors. The accessible 2020 working paper describes substantial variation in program intensity, population and outcomes; the final journal publication appeared in 2022. This supports taking financial education seriously, but supplies no Trade effect size or proof that a short concentration lesson changes later investing. Its external-validity and cost discussion also cautions against treating every intervention as interchangeable. Kaiser and colleagues, S1

For Trade, the strongest practical inference is to define a teachable relationship rather than promise a broad financial-life benefit. A learner could compare allocations and explain why a model's loss is more consequential when more fictional funds are exposed to the affected holding. That explanation would remain narrower than knowing how to choose real investments, estimate probabilities or manage household finances. Those broader tasks would require information the proposed exercise does not provide.

SEC investor education describes diversification as spreading investments and explicitly notes that it cannot guarantee protection when markets fall. This is official conceptual guidance, not an intervention study or an allocation prescription. Investor.gov, S4

An EAG design inference follows: three differently named holdings are not enough to demonstrate independent exposure. If all respond similarly to an event, the lesson must show that relationship. If only one changes, the lesson must label that as an authored assumption. It should not accidentally teach that equal shares are universally best, or that adding names removes risk. These are potential errors to look for in evaluation, not documented misconceptions among Trade users.

The need is consequently conditional. Trade would be useful if a bounded simulation makes an important distinction easier to explain, remains accessible and does not displace a simpler effective lesson. Present evidence warrants that test; it does not warrant claiming educational necessity or a market-sized opportunity.

4. Alternatives and the specific gap to test

Teachers already have financial-literacy materials. The Consumer Financial Protection Bureau offers a directory of classroom activities with teacher guides and student materials, including grade and topic filters. The directory describes activities suitable for a class period. No individual lesson was appraised here as an exact concentration-risk substitute, and the directory does not establish experimental effectiveness for every entry. CFPB, S5

A fuller simulation alternative also exists. The Stock Market Game teacher guide includes preparation, selection, tracking and reflection resources. It describes competitions ranked by portfolio equity or percentage return. Those are capability descriptions from the provider, not comparative evidence that competition improves learning or causes harm. SIFMA Foundation, S6

Alternative	What it offers	What Trade must justify
Teacher-led allocation table	An adult can discuss the same authored event and compare choices	Added learning or lower explanation burden from interaction
Existing CFPB activity	Prepared classroom material and facilitation support	A specific uncovered learning job, not generic financial literacy
Stock Market Game	A broader program with instruction, simulation and competition	The value of a deliberately smaller, unranked revision exercise

The allocation-table comparator above is an EAG evaluation proposal, not a separately evaluated product. Its importance is methodological: if both groups see identical content, the comparison can test whether the interaction contributes something beyond reading and discussion. A comparison against no lesson would answer a less demanding question.

Figure 1

Alternatives answer different classroom jobs

Guided allocation table

A simpler comparator

EAG proposal: identical event and explanation without interactive allocation. Test whether interaction adds value.

CFPB activities | S5

Prepared teaching resources

Directory provides guides and student materials. Exact concentration-risk equivalence remains unverified.

Stock Market Game | S6

A broader program

Resources include reflection and describe return/equity competition. Trade proposes a bounded, unranked revision task.

Conceptual fit comparison, not an effectiveness ranking. Trade must justify additional learning or reduced burden.

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- A0. EAG product definition
- S5
- S6

These equivalents accompany the reader figures. Source IDs refer to the report references. A0 identifies EAG's product definition reviewed for the original report, not an external study or proof of availability. Other source IDs resolve to this report's reference and access record.

Figure 1. Alternatives answer different classroom jobs

Conceptual fit comparison, not an effectiveness ranking. Trade must justify additional learning or reduced burden.

Guided allocation table: A simpler comparator. EAG proposal: identical event and explanation without interactive allocation. Test whether interaction adds value.

CFPB activities | S5: Prepared teaching resources. Directory provides guides and student materials. Exact concentration-risk equivalence remains unverified.

Stock Market Game | S6: A broader program. Resources include reflection and describe return/equity competition. Trade proposes a bounded, unranked revision task.

Sources: A0, S5, S6.

Figure 1. Conceptual comparison of documented resources and proposed classroom options. The categories are not an effectiveness ranking. Text and data alternative.

Trade's possible distinction is restraint: one concept, one disclosed event, a visible revision and no return competition. That is a product hypothesis, not established originality or demand. A teacher may prefer a larger curriculum, a paper exercise or no investment topic at all. The product should earn its place through a clear learning advantage and manageable burden, rather than by implying that existing resources lack reflection.

5. Evidence and counterevidence

The Stock Market Game study is relevant because it evaluated a school program rather than only asking participants whether they enjoyed a game. Learning Point Associates' 2009 report examined a fall 2008 program across grades 4-10. Its selected analyses found positive investor-knowledge effects. However, it studied an extended classroom package, not an isolated allocation mechanic. Teacher recruitment, incomplete participation, specialized tests and differences between intent-to-treat and treatment-on-

treated estimates limit transportability. FINRA Investor Education Foundation funded the report, an industry-linked interest worth disclosing. It does not demonstrate later investing performance or Trade efficacy. Learning Point Associates, S2

Lejarraga, Ranganathan and Wulff's 2024 study provides counterevidence. Across four online studies with 3,804 participants, the authors did not reproduce expected benefits of simulated risk tools for risk taking or subjective representations of risk. The main studies used adult UK online participants and incentivized repeated allocation tasks. The authors explored procedural variations and moderators. This is not a child classroom test, and it cannot establish that all simulations fail. It does challenge the assumption that showing simulated outcomes reliably improves risk understanding. Lejarraga and colleagues, S3

These findings need not contradict each other. A multiweek school program combines instruction, repeated practice and facilitation. An adult risk tool intervenes in a different decision task. Trade's single-event revision lesson is a third intervention. Treating all three as one category would erase the features that might determine success.

Figure 2

Evidence supports a test, not a product effect

Financial education synthesis | S1

Category plausibility

Positive average knowledge and behavior findings; varied interventions do not establish a Trade effect.

School program | S2

Encouraging but indirect

Historical classroom package has positive knowledge findings. Instruction and simulation are not isolated.

Adult risk tools | S3

A serious counterexample

Expected improvements were not reproduced. Adult tasks differ from the proposed child lesson.

Different interventions and populations prevent a pooled product conclusion. No Trade effectiveness is estimated.

Evidence supports a test, not a product effect

Different interventions and populations prevent a pooled product conclusion. No Trade effectiveness is estimated.

- S1
- S2
- S3

Figure 2. Evidence supports a test, not a product effect

Different interventions and populations prevent a pooled product conclusion. No Trade effectiveness is estimated.

Financial education synthesis | S1: Category plausibility. Positive average knowledge and behavior findings; varied interventions do not establish a Trade effect.

School program | S2: Encouraging but indirect. Historical classroom package has positive knowledge findings. Instruction and simulation are not isolated.

Adult risk tools | S3: A serious counterexample. Expected improvements were not reproduced. Adult tasks differ from the proposed child lesson.

Sources: S1, S2, S3.

Figure 2. Selected evidence differs in intervention, population and outcome. No row estimates Trade After Class effectiveness. Text and data alternative.

The synthesis yields a qualified design position. Give explanation and revision explicit roles; do not assume the act of allocating teaches the concept. Test understanding separately from enjoyment and numerical results. Include the possibility of no added benefit. Preserve a meaningful comparator and an unfamiliar scenario. These are EAG's proposed responses to the evidence, not interventions validated by the reviewed studies.

The research also leaves a central safety question unanswered: whether this specific exercise increases a student's desire to speculate or confidence in predicting real returns. The report did not locate a directly matched youth study measuring that outcome. Excluding rankings follows the product's established boundary. A causal effect of rankings on harm was not established in this review.

6. Proposed mechanism: make the reasoning inspectable

Figure 3

A proposed explanation and revision loop

Conceptual only. Every link is proposed.

Expose the initial reasoning

1. Choose a fictional allocation
↓ proposed link
2. Explain which exposure matters
↓ proposed link
3. Inspect one disclosed event

Proposed learning link; an event illustrates a condition, not its probability.

Revise with limits

1. Read the result table
↓ proposed link
2. Revise allocation and explanation
↓ proposed link
3. Identify what the model cannot establish

A favorable balance is not proof of understanding or predictive skill.

EAG conceptual mechanism, not evaluated causality. Exact holdings, amounts, event rules and feedback remain unsettled.

A proposed explanation and revision loop

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Figure 3. A proposed explanation and revision loop

EAG conceptual mechanism, not evaluated causality. Exact holdings, amounts, event rules and feedback remain unsettled.

Expose the initial reasoning. Choose a fictional allocation → Explain which exposure matters → Inspect one disclosed event.
Proposed learning link; an event illustrates a condition, not its probability.

Revise with limits. Read the result table → Revise allocation and explanation → Identify what the model cannot establish. A favorable balance is not proof of understanding or predictive skill.

Sources: AO.

Figure 3. EAG conceptual mechanism. The links are proposed, and every outcome remains untested. Simulation results describe authored rules rather than forecasts. Text and data alternative.

The proposed mechanism begins with a learner's explanation before the event. Asking which holding matters most to the allocation creates something to compare with the later explanation. The simulation then applies an authored rule once and shows the consequences in a readable table. A revision gives the learner a chance to change exposure, explain the change and identify what remains uncertain.

Each link is a hypothesis. An initial explanation may be too demanding for some ages. A result table may clarify arithmetic while leaving the concept opaque. Revision may become trial and error aimed at increasing the balance. The mechanism therefore needs observation of what learners say and do at each step, not only a final completion count.

A crucial distinction is between a disclosed scenario and a sample from a probability model. One authored event can show a conditional consequence: under this rule, this allocation changes in this way. It cannot by itself establish how often the event occurs. A learner who sees a favorable result has not demonstrated predictive skill. A learner whose allocation loses fictional value may still explain the relevant risk correctly.

Feedback should therefore keep two judgments separate. The result table reports what happened under the model. The learning feedback addresses whether the explanation matches the model and acknowledges its limits. A higher balance should not automatically receive stronger educational praise. Equally, a revision should not be rewarded simply because it moves toward equal shares. A learner might retain an allocation while accurately describing its concentration and the consequences.

The model must also make its own boundaries visible. The holding labels, event description and result should all retain synthetic status. Resume should restore the same event state, and repeated input should not silently apply the event twice. These are requirements for the future implementation, not claims that the current product satisfies them. A coherent lesson cannot survive unreliable state even if its educational rationale is sound. AO

7. Design concepts to evaluate

Three concepts deserve comparison within the existing product boundary. They are research proposals, not approved screen designs.

Allocation and explanation together. Keep the learner's reason beside the fictional allocation, so the later result does not erase the original thinking. An optional sentence starter could support expression, but a fixed multiple-choice reason risks teaching the answer before it is assessed. The evaluation should distinguish help

needed to express a thought from lack of understanding.

A result table with one explanatory comparison. Show the starting allocation, the disclosed event and its resulting consequences. Avoid a constantly moving market display that suggests live conditions. A learner should be able to identify what changed without relying on color, animation or a chart tooltip. A nonvisual reading order should communicate the same relationship.

Revision with a model-limit question. Ask what the learner would change and why, followed by what the scenario cannot establish. The second question matters because a learner can correctly reproduce the demonstrated calculation while falsely believing it identifies the best real investment. It should invite a clear explanation rather than a ritual disclaimer copied from the screen.

The most informative design comparison is not between elaborate visual themes. It is between ways to make a learner's reasoning visible without excessive reading or writing. A spoken explanation to a teacher, a short written response or an accessible structured response may be appropriate in different settings. This report does not authorize collecting voice recordings or introducing an AI evaluator.

A character, study desk or decorative market setting would need to serve the learning job. It should not become the control surface or consume effort needed for a readable table. Likewise, a replay should have a stated purpose. Repeatedly generating favorable results could train persistence at winning the model instead of reflection on uncertainty. That is a testable design concern, not an observed harm in Trade.

8. Risks, equity and classroom burden

False certainty is the most direct conceptual risk. A small set of holdings and a single event compress a complex domain. Compression is useful for teaching only if the learner can recognize the simplification. Merely displaying a no-advice label does not prove that the learner understands it. The evaluation should ask what the result means and whether it supports a real-world recommendation.

Numeracy and language are also part of access. A learner may understand relative exposure but struggle with percentages or written explanations. Another may perform the arithmetic without understanding why the allocation matters. The intended age group must be chosen before interpreting either response as success or failure. No disability-, language- or age-specific Trade evidence is available yet.

Access should be evaluated through actual tasks: entering an allocation with keyboard or touch, hearing the table through assistive technology, correcting invalid input, returning after interruption and completing the lesson with reduced motion. A smaller screen must not hide the event assumption while showing the outcome. These are proposed acceptance checks, not accessibility certification.

Privacy should remain proportionate to the learning task. The lesson does not need a family's income, real holdings, brokerage access or investment goals. Practice choices should not be exported into a student record or used for eligibility. If research later collects explanations, the study must separately define consent,

retention and who can read them. An account is not evidence that a school or caregiver authorized every possible use of a child's response.

Teacher burden includes selecting a suitable lesson, understanding the authored event, explaining controls, helping with arithmetic, resolving technical interruptions and discussing misconceptions. A short student interaction can still impose substantial preparation. Record that work separately from screen time. If Trade requires extensive adult correction to prevent misleading conclusions, a simpler guided activity may be the better choice.

Finally, no-real-money design removes a direct financial transaction, but does not prove absence of educational harm. The relevant safeguards must be tested through comprehension and behavior in the lesson. The report has no evidence supporting claims of legal compliance, school adoption, professional endorsement or real-world financial benefit.

9. Evaluation, failure signals and change criteria

A future evaluation should begin with the learning task and age range, then choose measures and a comparison. The suggested comparison is the complete allocation-and-revision experience versus the same content, event and result in a static table with equivalent discussion. Equalizing content and facilitation would help isolate the interaction's added value. The design, sample size and analysis would need separate specification; no study has been conducted or approved through this report.

A useful primary outcome would ask the learner to explain concentration in an unfamiliar scenario, identify which assumptions matter and describe a reasoned revision. A rubric should credit an accurate explanation even when the fictional result is unfavorable. It should also distinguish a correct explanation from repeating a prompt. Independent scoring and agreement checks would be appropriate if open responses become a formal outcome.

Figure 4

Learning claims need different observations

Transfer

Explain an unfamiliar case

Proposed primary evidence: concentration, assumptions and reasoned revision beyond the practiced example.

Calibration

Compare confidence and reasoning

Higher confidence without stronger explanations is a reason to investigate false certainty.

Added value and burden

Compare the same content

Use an allocation-table comparator; record help, time and access failures, including non-completers.

Proposed evaluation decisions. No validated instrument, threshold or Trade result is supplied.

Learning claims need different observations

Proposed evaluation decisions. No validated instrument, threshold or Trade result is supplied.

- A0. EAG product definition
 - S3
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Figure 4. Learning claims need different observations

Proposed evaluation decisions. No validated instrument, threshold or Trade result is supplied.

Transfer: Explain an unfamiliar case. Proposed primary evidence: concentration, assumptions and reasoned revision beyond the practiced example.

Calibration: Compare confidence and reasoning. Higher confidence without stronger explanations is a reason to investigate false certainty.

Added value and burden: Compare the same content. Use an allocation-table comparator; record help, time and access failures, including non-completers.

Sources: A0, S3.

Figure 4. Proposed evaluation decisions. No thresholds, effect sizes or product outcomes have been measured. Text and data alternative.

Observation	Interpretation to investigate	Product response
Correct familiar answer, poor unfamiliar explanation	Memorization or task-specific learning	Revise the explanation and transfer task
Higher confidence without better reasoning	Possible false certainty	Reduce predictive cues and reassess the lesson
Good reasoning with frequent adult rescue	Learning may depend on facilitation	Clarify audience and adult support requirements
Similar learning from the simpler comparator	Interaction may add little	Retain the simpler format or demonstrate another concrete benefit
Double event advance or inconsistent totals	Model behavior undermines the lesson	Repair before interpreting learner outcomes

A later follow-up could test whether learning persists after the initial session. Completion, enjoyment and willingness to repeat are secondary outcomes; they cannot replace understanding. Time, assistance and failure rates should be reported with denominators that include those who could not finish, rather than only successful users. Subgroup analysis should be planned around plausible access barriers and sample capacity, not mined for favorable results.

Continue only if the evidence supports the stated learning job at acceptable burden and without a concerning rise in false certainty. Revise if the explanation fails, learners mistake the scenario for a forecast or access depends on unnecessary adult intervention. Reconsider the simulation if a simpler activity teaches equally well with less work. These decision criteria intentionally remain qualitative until a proper evaluation design establishes meaningful thresholds.

10. Methods, limitations, references and corrections

This is a focused, question-led review using the exact Trade After Class product definition and entity research brief. Retained original sources were checked on September 19, 2026. The review examined original research, an original evidence synthesis, official education guidance and first-party alternatives. It is not a systematic review, and it does not establish that all relevant studies were found.

Research publication dates and measured periods are distinct. The school trial describes 2008 implementation; the meta-analysis working paper appeared in 2020 with a later journal version in 2022; the risk-tool article appeared in 2024. None supplies current Trade outcomes. This report deliberately avoids presenting historical study effect sizes as a forecast, and its figures are qualitative comparisons and conceptual proposals rather than charts of product performance.

Access was to full-source PDF or HTML, but appraisal was focused on relevant methods, findings and limitations, not every underlying trial, appendix or linked teaching file. The final financial-education journal record was checked for identity; the accessible working paper supplied the detailed appraisal. Exact final-version numerical estimates were not reproduced. Correction searches for the two central journal titles found no clearly identified correction or retraction in the inspected results; this bounded search is not proof of their absence. Official resource pages were checked as live descriptions, not tested applications.

No interviews, classroom observations, prototype tests or Trade outcome data were collected. The review does not establish local demand, age fit, teacher preparation time, long-term transfer or effects on speculative interest. It cannot certify financial, educational or accessibility compliance. Those gaps limit the claim to a reasoned case for a narrow test.

References below identify the source trail. A correction should name the affected claim or figure, provide the source location, distinguish a changed source from an interpretation error and explain whether the report's conclusion changes. Product learning claims should be updated only when direct evidence exists.

- **A0.** Education Angel Group, Trade After Class product definition, reviewed September 19, 2026 for this report. Defines intended scope, not implementation or effectiveness.
- **S1. Kaiser, T., Lusardi, A., Menkhoff, L., and Urban, C.** Financial Education Affects Financial Knowledge and Downstream Behaviors. IZA Discussion Paper 13178, April 2020; final publication in Journal of Financial Economics, 145(2), 255-272, 2022. Relevant locators: methods, cost-effectiveness and external validity. Working paper; journal record.
- **S2. Learning Point Associates.** The Stock Market Game Study: Final Report, 2009. Relevant locators: methodology, printed pages 9-10; generalizability, page 24 onward; outcome-model comparisons and Table 22, pages 34-37. Funded by FINRA Investor Education Foundation. Original report.
- **S3. Lejarraga, T., Ranganathan, K., and Wulff, D. U.** Can simulated experience be harnessed to help people make investment decisions? Judgment and Decision Making, 19, e24, 2024. DOI 10.1017/jdm.2024.17. Relevant locators: overview, participants, results and general discussion. Original article.
- **S4. SEC Investor.gov.** Diversify Your Investments. Undated official educational page, retrieved September 19, 2026. Relevant locator: explanation beneath the title. Guidance.
- **S5. Consumer Financial Protection Bureau.** Find financial literacy activities. Undated live directory, retrieved September 19, 2026. Relevant locators: introduction and filters. Activity directory.

- **S6. SIFMA Foundation.** The Stock Market Game teacher guide. Undated live resource, retrieved September 19, 2026. Relevant locators: Lesson Plans & Activities and Rankings. Teacher guide.

Figure text and data alternatives

Complete semantic alternatives accompany each figure in this reader and its text download. Source IDs refer to the references in this report. A0 identifies EAG's product definition reviewed for the original report, not an external study or proof of availability. Other source IDs resolve to this report's reference and access record.

Corrections and entity context

Readers identifying an error can contact EAG with the section, disputed statement and supporting source. Trade After Class provides the public entity context, not an external citation for EAG's product claims.