

One-Point Perspective Teaching Audit

Expanded 87-source study of directional derivation, false teaching by omission/substitution, and explicit conceptual error

Prepared 12 August 2026

Research question. How often is one-point perspective taught from the general geometrical principle that a vanishing point belongs to a particular spatial direction (equivalently, a line through the eye/station point parallel to that family), and how often is the subject instead taught through a horizon-line + central-vanishing-point model that omits or substitutes for that determining principle, or through an explicit conflation with the sight line / point of view?

Important limitation. This is a purposive evidential audit, not a random sample of every perspective source in existence. Percentages describe the 87 sources inspected here and should not be presented as population prevalence. Institution names identify the specific public teaching resources examined, not a judgement that every course or teacher at that institution uses the same explanation.

Executive findings

Classification	Count	Share	Teaching result
A — correct directional explanation	30	34.48%	Vanishing point is correctly related to the direction of the corresponding parallel-line system.
B — false teaching by omission / substitution	49	56.32%	The determining directional principle is omitted while the conventional central one-point construction or definition stands in its place.
C — explicitly false teaching	8	9.20%	Distinct geometrical entities or causes are explicitly conflated, or a materially false causal rule is stated.

Combined B + C: 57 of 87 sources (65.52%). Under the teaching criterion used in this revised audit, almost two-thirds of the inspected sources do not correctly teach the determining directional principle: 49 omit it while substituting the conventional special-case model, and 8 go further by stating an explicit conceptual error.

- The strongest A sources are not merely historical. Modern architecture, mathematics, computer-graphics and computer-vision teaching at institutions including Princeton, MIT, Stanford, Oxford and Cambridge expresses the same direction-based principle.
- The largest concentration of B sources remains introductory art teaching: horizon line → place/choose a vanishing point → draw orthogonals. Under the criterion adopted here, when that procedure is presented as teaching one-point perspective without the determining directional principle, it constitutes false teaching by omission/substitution rather than a neutral lack of detail.

- The C category remains deliberately conservative: it is used only where the inspected wording explicitly identifies distinct entities, attributes convergence to the wrong cause, or materially misstates why one-point perspective has one vanishing point.
- Some older authors use “sight line” for a variable ray through the eye deliberately made parallel to the relevant spatial line system. Functionally, that ray is direction-derived and is therefore classified A despite the terminology.

What the 87-source study supports

The enlarged audit supports the central conjecture. In one-point perspective the depth direction, the corresponding directional-reference ray through the eye, and the central viewing axis can coincide. When teaching presents the resulting horizon-line + central-vanishing-point construction without identifying the direction of the spatial parallel-line system as the determining principle, the learner is not merely missing an optional detail: the special-case construction is allowed to stand as the explanation of why convergence occurs.

Accordingly, this revision distinguishes correct teaching from false teaching by omission/substitution and from explicitly false teaching. The canonical one-point drawing can still be constructed correctly, but a correct construction can conceal a false causal theory. The historical and modern technical A sources show that the direction-based rule is established geometry; the educational issue is whether that rule is actually explained.

Method and classification rules

Sources were located across historical books/manuals, university and technical teaching, school/museum education, and contemporary online tutorials. Seven additional high-profile university resources were then targeted: Harvard, Yale, Princeton, MIT, Stanford, Oxford and Cambridge. The inspected one-point or vanishing-point explanation was coded as follows:

- A — Correct directional explanation: explicitly locates the relevant vanishing point from the direction of the corresponding parallel family (for example, a ray through the eye/station point parallel to that family), or clearly derives one-point perspective from picture-plane orientation and direction sets.
- B — False teaching by omission / substitution: teaches or defines the standard horizon + single-vanishing-point construction as one-point perspective without explaining how that vanishing point is determined by the spatial line-system direction, so the special-case model is left to stand in place of the determining principle.
- C — Explicitly false teaching: identifies the vanishing point with viewpoint/station point/fixation, claims all sight-lines meet one vanishing point, reverses the causal relation between diminution and vanishing-point formation, or gives another materially false rule about why one-point perspective has one vanishing point.

Coding principle: absence of the PRC terms “Directional Reference Line” or “Visual Element” is not itself an error. A source receives A whenever it teaches functionally equivalent geometry. The B classification depends on the explanatory role of the inspected material: it is used where the source purports to teach or define one-point perspective but omits the determining direction-based principle.

Pattern by source environment

Source environment	A	B	C	Total
Books / manuals / reference	12	2	0	14
University / technical teaching	18	8	3	29
Schools / museums / public education	0	19	0	19
Online art / drawing tutorials	0	20	5	25

Interpretive caution: the source environments were not sampled in proportion to their real-world market share; this table is descriptive of the audit set only. The added university sources were deliberately targeted to test whether the same issue appears in high-profile institutions.

Historical context: the directional rule is not new

Brook Taylor's New Principles of Linear Perspective (1719) belongs to the early English mathematical tradition that made vanishing points properties of spatial line directions, and later authors such as Ruskin express the construction explicitly: through the station point, draw a line parallel to the original line; its intersection gives the VP. The important research question raised by the present audit is therefore not whether the direction principle ever existed, but why it is so often absent from elementary modern explanations.

Historical reference (context, not separately counted in the 87): Sir John Soane's Museum catalogue — Brook Taylor, *New Principles of Linear Perspective* (1719)

Original 80-source evidence table

The following 80 rows preserve the original evidence set. Each row records the classification of the inspected perspective explanation, not a judgement on the overall quality of the source. The seven-university extension follows this table.

A — correct directional explanation (original sources)

#	Source	Type	Evidence / reason for classification	Ref.
1	John Ruskin, The Elements of Pers	Book / treatise	Explicitly constructs the vanishing drawing from the station point a line the given spatial line.	Open source
2	G. A. Storey, The Theory and Pract Perspective	Book / treatise	Constructs vanishing points from the point with lines parallel to the corresponding sides/directions in plan.	Open source
3	Joseph D'Amelio, Perspective Drawing Handbook	Book / manual	Uses “sight lines” through the object deliberately made parallel to each other and object lines to locate its vanishing point.	Open source
4	Ernest Norling, Perspective Drawing	Book / manual	Locates vanishing points by running the eye to the picture plane parallel to the directions of the box.	Open source
5	Francis D. K. Ching, Architectural Drawing ed.	Book / textbook	States the general rule: the VP for a set of parallels is where a line from the station point parallel to that set intersects the picture plane.	Open source
6	Francis D. K. Ching, Design Drawing	Book / textbook	Treats the vanishing point as below the horizon. Derives corresponding VPs from projective geometry.	Open source
7	Scott Robertson & Thomas Bertlin, Drawing	Book / manual	Uses a top-view “visual ray” method to find the line parallel to the spatial set through the station point to find that set’s VP.	Open source
8	Complete Perspective Course	Historical book / manual	Uses a “directing” line from the station point parallel to the relevant direction and the resulting VP for all lines parallel to that direction.	Open source
9	The Essentials of Perspective	Historical book / manual	Relates station point and vanishing point through the geometry of parallel diagonals rather than treating a chosen central vanishing point as a general cause.	Open source
10	Architectural Sketching and Drawing in Perspective	Historical book / manual	Draws lines through the eye parallel to the object diagonals to meet the horizon at the corresponding VP/DVP.	Open source
11	A Dictionary of Architecture and Building, Perspective entry	Reference work	Defines the VP by a projector through the station point parallel to the given line; the horizon serves all lines parallel to it.	Open source
12	SP 46: Engineering Drawing Practice for Schools and Colleges	Technical standard / manual	States that the intersection of the eye ray parallel projection ray with the horizon gives the VP for all lines parallel to that direction.	Open source
13	CUNY City Tech, Creative Perspective One-Point Perspective	University teaching	Projects the VP from the station point parallel to the plan/direction before the object to the horizon.	Open source
14	Carnegie Mellon University, Centre for Design	University / technical teaching	Explicitly states that a family’s VP is found by a line through the station point in the direction of parallel lines pierces the picture plane.	Open source
15	University of Utah, Mathematics of Perspective Drawing	University / mathematics	Explains one-point perspective as a special case in which only one object-axis direction is parallel to the drawing plane and the other two are finite VPs.	Open source
16	University of Illinois, Horizon and Vanishing Point	University / mathematics	Defines the eye ray of a spatial line through the eye parallel to it; its intersection with the canvas is that line’s VP.	Open source

#	Source	Type	Evidence / reason for classification	Ref.
17	University of Illinois, Linear Persp	University / mathematics	Treats VPs as direction-dependent: parallel lines share a VP; lines para picture plane remain parallel.	Open source
18	UC Berkeley CS184, Perspective / Points	University / computer graphics	Explains VP formation by the orien bundles of spatial parallels relative imaging plane; bundles parallel to t have no finite VP.	Open source
19	California State University Northri Perspective notes	University / mathematics	Explains one-point as the special ca of three parallel direction sets are p picture plane, leaving one finite VP	Open source
20	University of New Mexico, Perspe	University / computer graphics	Separates parallel sets by their relat view plane: parallel-to-plane sets re parallel; others converge to VPs.	Open source
21	University of Wisconsin, Image Fo Vanishing Points	University / computer vision	States that the ray from the camera through a VP is parallel to the corre spatial lines.	Open source
22	Cornell University, Single-View M Vanishing Points	University / computer vision	Uses line direction vectors and poi to derive VPs; multiple spatial dire produce multiple VPs.	Open source
23	Open University / OpenLearn, Typ Perspective	University public teaching	Explains one-point as an orientatio parallel to the picture plane stay pa the right-angle depth direction rece VP.	Open source
24	Perspective Resources, Principles	Technical perspective resource	Establishes each VP by moving a s parallel to the relevant grid directio viewpoint until it meets the picture	Open source
25	Wikipedia, Vanishing point — tech overview	Reference / technical overview	Defines VPs by spatial direction an the sightline through the VP is para direction; identifies one-point as the perpendicular-to-picture-plane spec	Open source

B — false teaching by omission / substitution (original sources)

#	Source	Type	Evidence / reason for classification	Ref.
26	Lemoore College, Drawing Perspective 2	Open textbook	Inspected one-point section begins with horizon line, then defines/places a VP and constructs object to it; no station-point/direction is given.	Open source
27	Bakersfield Museum of Art, Art Project: One-Point Perspective	Museum education	Defines one-point as convergence to a single VP on the horizon and teaches standard special-case construction by deriving that VP from spatial direction.	Open source
28	Museum of Latin American Art (MOLAA), Point Perspective	Museum education	Procedure: draw horizon, draw one point anywhere on it, draw a square, connect corners to VP. Operationally useful, but the cause is omitted.	Open source
29	University of Evansville Studio Chair, Seeing One Point Perspective	University art teaching	Finds perspective by extending visible lines until they converge near the eye; general construction from spatial direction through the eye is supplied.	Open source
30	Studio Matrix, One-Point Perspective Drawing Fundamentals	Online / design teaching	Tells learners to draw a horizon, mark a point, then connect a back-wall rectangle corners to it; special construction is taught without general direction rule.	Open source
31	Westmoreland Museum of American Art, Point Perspective Drawing	Museum education	Identifies horizon and VP from context in an example, then transfers horizon and VP to a drawing; no direction-through-eye rule.	Open source
32	District of Columbia Visual Arts Standards glossary	School standards	Defines one-point as lines appearing to converge at a single point on the horizon. It gives no geometrical derivation.	Open source
33	Getty Education, Pearlblossom High School, perspective lesson	Museum / teacher resource	Asks pupils to identify horizon, VP, and lines meeting there in one-point images; underlying spatial direction construction is absent.	Open source
34	DIY.org, Draw in Perspective	Online youth tutorial	States that all receding lines in one-point perspective meet at one VP on the horizon, with no explanation why that particular line system has that VP.	Open source
35	Mennello Museum, One-Point Perspective Family Funday	Museum education	Step sequence begins horizon across the top, then at centre, then radiating vanishing lines; Directional reference construction is absent.	Open source
36	Oak National Academy, One Point Perspective KS3	School curriculum	Frames horizon line and VP as the starting elements for one-point drawing; inspected lesson does not derive the VP from spatial direction.	Open source
37	Student Art Guide, One Point Perspective Drawing: The Ultimate Guide	Online art education	Emphasises correct positioning of horizon and construction toward that VP, but inspected one-point guidance does not derive VP from the line-system direction.	Open source
38	Mrs. Chehrehsa Visual Arts, One-Point Perspective	School / online art teaching	House exercise: draw front wall, add a point, place VP on it, then guide corners to it; special-case recipe is presented without general directional principle.	Open source
39	Ran Art Blog, Perspective Drawing	Online tutorial	Depth lines are instructed to meet at a point; and rooms begin with horizon + one-point; VP is operationally given rather than derived.	Open source

#	Source	Type	Evidence / reason for classification	Ref.
40	Drawing Week Brussels, Perspective Tutorial	Online tutorial	Procedure explicitly says draw horizon line, then VP (usually centred/off-centre), then orthogonals from it; no station-point construction.	Open source
41	Clip Studio Tips, Can you better draw three-dimensionality?	Online tutorial	Treats horizon/eye level and VP as setup for depth; the inspected explanation does not establish VPs from specific spatial directions.	Open source
42	BibleMouse, Horizon Line and Vanishing Point	School / online curriculum	Defines VP as where parallels appear to meet and practises a road/hallway with horizon; no general directional-reference derivation.	Open source
43	Arts Impact, Grade 8 One-Point Perspective	School lesson plan	Defines one-point by one VP on the horizon with a face parallel to the viewer; then a special configuration but does not explain reference-line construction.	Open source
44	Primary School Art, One Point Perspective Bedroom	School lesson	Teaches horizon, VP and converging lines; basics and practises shapes above/below horizon; direction-of-system geometry is omitted.	Open source
45	Art Projects for Kids, City with One Point Perspective	Online / school tutorial	Uses a single VP on the horizon as destination of tops/sidewalk guides; construction of that VP from the reference direction.	Open source
46	Erika Lancaster, Drawing a Room in One Point Perspective	Online tutorial	Uses the standard one-point grid approach for non-front-facing depth lines; no through-eye parallel construction is shown.	Open source
47	Clip Studio Tips, Basic Perspective Vanishing Points and Simple Backgrounds	Online tutorial	Starts by placing the horizon, then the VP where desired and connects receding lines. This is the shortcut procedure.	Open source
48	Courtney Marie Taylor, Landscape in One Point Perspective	Online tutorial	Step 1 is horizon + central VP; Step 2 draws diagonals from VP to corners. No derived VP explanation.	Open source
49	HelloArtsy, One Point Perspective	Online tutorial	Step 1 draws horizon; Step 2 places VP; later construction is drawn back to VP. The reason for that VP is not derived.	Open source
50	Muus Art, 4 Easy Steps for One Point Perspective	Online tutorial	Asks the learner to decide where to place the horizon, then uses it for orthogonals. Parallel-line appearance is mentioned but station-point directional construction is absent.	Open source
51	Artistic Designers, Mastering One-Point Perspective	Online tutorial	Procedure: draw horizon, select a station point, make parallels converge to that station point. General direction-dependent derivation is absent.	Open source
52	Domestika, What Is the Vanishing Point? How to Use It?	Online art education	Explains convergence toward a central point on the horizon as a depth tool, but does not establish each VP from the direction of its parallel lines.	Open source
53	Study.com, One Point Perspective	Online lesson	Tells artists to create the horizon and place the VP on it; says VP may be anywhere on the horizon. No line-system directional derivation is given.	Open source
54	Alabama Art Supply, Perspective Drawing Series — One-Point	Online art lesson	Explains front-on orientation, but then tells the learner simply to choose one point on the horizon as VP and construct depth lines.	Open source

#	Source	Type	Evidence / reason for classification	Ref.
55	Drawing and Painting (Wix), One-Point Perspective	Online art lesson	Establishes eye-level horizon and vanishing point anywhere along it, followed by lines receding to the square. Directional derivation is implied.	Open source
56	Grid Maker Pro, One Point Perspective	Online technical drawing tool	Explains a back wall, horizon and a single vanishing point; gives useful distance information but does not make the derivation arise from a line through the eye parallel to the depth system.	Open source
57	XPPen, Perspective Drawing for Beginners	Online tutorial	Links one-point to a single horizon line; lines converge there; the directional mechanism is not supplied.	Open source
58	Pia's Art Blog, One Point Perspective	School / student-facing resource	Uses central/principal VP/centre-of-vision terminology and a direction point, but the inspected instruction does not derive from a line through the eye parallel to the depth system.	Open source
59	Craftsy, The Basics of Three Point Perspective (one-point recap)	Online art tutorial	Recaps one-point as vertical/horizontal lines plus lines receding to one VP; this is a special-case rule rather than the general derivation.	Open source
60	Brigham Young University–Idaho, Basic Perspective: Converging Lines	University art teaching	Explains apparent convergence to a single point on eye level/horizon and attributes diminution; it does not construct the spatial direction.	Open source
61	Art Institute of Chicago archive, What is One-Point Perspective?	Museum / education archive	Gives horizon, VP and distance-point relationships, but the inspected material does not make the vanishing point a directional intersection through the eye.	Open source
62	Brigham Young University–Idaho, Drawing from a Photograph exercise	University art exercise	Asks students to draw the eye level and vanishing point corresponding to each photo. Useful for analysis, but not a derivation of VP from direction.	Open source
63	University of Houston teacher resource on Geometry / Perspective	University teacher resource	Describes parallel edges appearing to converge on the horizon and uses one-point construction pedagogy; the directional-reference mechanism is not the explanatory focus.	Open source
64	San José State University, Drawing from a Photograph	University art teaching	Defines one-point as receding lines toward one VP on eye level/horizon. It gives a visible result but not the reference-directional derivation.	Open source
65	KuraPlan, Observing and Perspective Drawing	School lesson plan	Teacher demonstration uses horizon and marked VP, then connects box edges to it; the direction-derived construction is implied.	Open source
66	SlideShare, One Point Perspective	Online presentation	Defines one-point as parallel lines receding toward one VP on the horizon. The directional mechanism for locating VPs by direction is omitted.	Open source
67	Life Drawing Academy, 16 Types of Perspective	Online art education	Introduces one-point as a single VP on the horizon with vanishing lines converging there; no station-point directional construction is shown.	Open source
68	Cleveland Museum of Art, Perspective Drawing	Museum education	Instructs learners to put a dot/X in the horizon line as the VP and use lines receding to it. The special-case recipe is tau	Open source

#	Source	Type	Evidence / reason for classification	Ref.
69	Grinnell College Museum of Art, C Perspective: Piranesi	Museum education	Lets the learner choose a VP (demo centrally), then treats most one-point intersecting it. Directional derivation	Open source
70	Contemporary Art Museum St. Louis Perspective activity	Museum education	Basic steps: draw horizon, mark VP, construct a street scene. No line-system reference construction is supplied.	Open source
71	Ashmolean Museum, Focus on Perspective Art — teacher notes	Museum / teacher resource	Lists horizon and one/more VPs and one-point as a single VP; the general through-eye location rule is not stated in inspected notes.	Open source
72	Academy of Art University, Grade Perspective Architecture	School lesson plan	Sets up the directed drawing with horizon and construction lines. The VP is a station point rather than directionally derived.	Open source

C — explicitly false teaching (original sources)

#	Source	Type	Evidence / reason for classification	Ref.
73	University of California Riverside, Landscape in One-Point Perspective	University outreach lesson	Says “all of our sight-lines” meet at a VP and describes that point as the station point from which perspective lines grow. This conflates sight-line behaviour with the line-system.	Open source
74	West Dean College, Perceptual Skills Drawing	College teaching resource	Explicitly identifies the vanishing point as the artist’s “Point of View fixed on the horizon line,” conflating distinct geometrical concepts.	Open source
75	Craftsy, Drawing a One-Point Perspective	Online art tutorial	States that the VP “will represent the point of view.” In geometrical construction, viewpoint/eye-point and VP are distinct.	Open source
76	Concepts App, Learn to Draw Part 1	Online drawing course	Calls the VP the “focal point of your drawing” and has perspective lines recede to it, conflating identification of the chosen VP with station point fixation rather than the line-system.	Open source
77	Haydn Symons, Complete Perspective	Online art tutorial	Claims that moving the one-point VP off the centre may effectively turn the drawing into a two-point perspective. Off-centre station point alone does not create a second spatial point.	Open source
78	My Drawing Tutorials, One Point Perspective Definition	Online art tutorial	Claims an object can be in one-point perspective in the middle of the observer’s field of vision and becomes two-/three-point as it moves away from the centre. Point count is determined by direction sets, not simply retinal position.	Open source
79	My Drawing Tutorials, Vanishing Point Horizon / Cone of Vision	Online art tutorial	Explains VPs as being created because objects get smaller with distance until they disappear into a VP. This reverses or confuses the relationship with the geometrical direction-based construction of a VP.	Open source
80	Bellevue College, Traditional Type Perspective Indication	College art resource	The glossary gives the vanishing point as the point where converging parallels meet and appends “(station point),” directly conflating it with the observer/station point.	Open source

High-profile university extension: sources 81–87

Seven additional public teaching resources were targeted specifically to include Harvard, Yale, Princeton, MIT, Stanford, Oxford and Cambridge. The classifications below apply only to the named resource inspected; they must not be read as a claim about every perspective course or teacher at the institution.

#	Source	Classification	Evidence / reason for classification	Ref.
81	Harvard University — A Guide to Writing in Art History (Harvard Writing Project / History of Art and Architecture)	B — false by omission / substitution	Defines linear perspective as organising an image around a central vanishing point, with objects becoming smaller near the horizon; it does not state the direction-of-parallel-system principle that determines the vanishing point.	Ref. 81
82	Yale-New Haven Teachers Institute — The Illusion of the Renaissance	B — false by omission / substitution	A studio-art curriculum explicitly designed to teach perspective rules instructs students to determine a vanishing point “anywhere” in the construction rectangle and draw orthogonals from it, without deriving the point from the spatial line-system direction.	Ref. 82
83	Princeton University COS 429 — Lecture 2: Image Formation and Capture	A — correct directional explanation	States that each direction in space has its own vanishing point, that the vanishing point is uniquely determined by direction, and constructs it by shooting a ray from the camera centre along that same direction to the image plane.	Ref. 83
84	MIT 6.869 — Image Formation lecture notes (2022)	A — correct directional explanation	States that each set of parallel lines — explicitly equated with a direction — meets at a different vanishing point, identified as the vanishing point for that direction.	Ref. 84
85	Stanford University CS231A — Single-View Metrology lecture notes	A — correct directional explanation	Defines the vanishing point as the projected point at infinity associated with a 3D line direction and gives the relationship $v = Kd$, where d is the direction of the parallel-line family.	Ref. 85
86	University of Oxford AIMS CDT — Exercises from Lecture 3 (HT 2017)	A — correct directional explanation	Requires students to derive the image coordinates of the vanishing point of a family of lines parallel to a specified parametric 3D line, directly tying the point to the family’s spatial direction.	Ref. 86

#	Source	Classification	Evidence / reason for classification	Ref.
87	University of Cambridge Engineering Tripos Part IIB 4F12 — Computer Vision and Robotics	A — correct directional explanation	Derives the vanishing point of lines parallel to the world X-axis from the camera projection matrix, explicitly making the vanishing point a property of a specified spatial direction.	Ref. 87

University-only findings

Across the enlarged audit there are 25 university-affiliated teaching sources representing 23 institutions. Sixteen of 25 (64%) teach the direction-based principle correctly; 8 of 25 (32%) fall into false teaching by omission/substitution; and 1 of 25 (4%) is explicitly false. Combined, 9 of 25 university-affiliated sources (36%) fail the directional-principle test.

Within the seven newly added high-profile resources, Princeton, MIT, Stanford, Oxford and Cambridge are classified A, while the specific Harvard resource and the Yale-New Haven Teachers Institute resource are classified B. Thus 2 of the 7 added resources (28.57%) fail the test by omission/substitution. Four Ivy League or Ivy-affiliated resources are represented in the full audit — Cornell, Harvard, Princeton and the Yale-New Haven Teachers Institute resource — with two A and two B results. These figures describe the audited resources only, not institution-wide teaching practice.

References and URLs — 87-source audit

All URLs were accessed for this audit on 12 August 2026. Where a source is a digitised historical book, the linked scan/text is the working research copy used for inspection. The seven added university resources are listed as references 81–87.

1. John Ruskin, *The Elements of Perspective* — <https://www.gutenberg.org/files/60816/60816-h/60816-h.htm>
2. G. A. Storey, *The Theory and Practice of Perspective* — <https://www.gutenberg.org/files/20165/20165-h/20165-h.htm>
3. Joseph D'Amelio, *Perspective Drawing Handbook* — https://dn790003.ca.archive.org/0/items/PerspectiveDrawingHandbook_201903/Perspective%20Drawing%20Handbook_text.pdf
4. Ernest Norling, *Perspective Drawing* (1969) — https://archive.org/stream/perspective-drawing-by-ernest-norling-walter-foster-1969/Perspective%20Drawing%20by%20Ernest%20Norling%20-%20Walter%20Foster%2C%201969_djvu.txt
5. Francis D. K. Ching, *Architectural Graphics*, 6th ed. — https://archive.org/stream/FrancisD.K.ChingArchitecturalGraphics6thEd2015/Francis%20D.%20K.%20Ching%2C%20Architectural%20Graphics%2C%206th%20Ed%20%5B2015%5D_djvu.txt
6. Francis D. K. Ching, *Design Drawing*, 2nd ed. — https://archive.org/stream/FrancisD.K.ChingDesignDrawing2ndEd2010/Francis%20D.%20K.%20Ching%2C%20Design%20Drawing%2C%202nd%20Ed%20%5B2010%5D_djvu.txt
7. Scott Robertson & Thomas Bertling, *How to Draw* — https://archive.org/stream/how-to-draw-drawing-and-sketching-objects-and-environments-from-your-imagination-pdfdrive.com/How%20to%20Draw%20%20drawing%20and%20sketching%20objects%20and%20environments%20from%20your%20imagination%20%28%20PDFDrive.com%20%29_djvu.txt
8. *Complete Perspective Course* — <https://archive.org/download/completeperspect00spanuoft/completeperspect00spanuoft.pdf>
9. *The Essentials of Perspective* — <https://archive.org/download/essentialsofpers00mill/essentialsofpers00mill.pdf>
10. *Architectural Sketching and Drawing in Perspective* — <https://archive.org/download/cu31924014081263/cu31924014081263.pdf>
11. *A Dictionary of Architecture and Building* — Perspective entry — https://archive.org/stream/adictionaryarch03sturgoog/adictionaryarch03sturgoog_djvu.txt
12. SP 46: *Engineering Drawing Practice for Schools and Colleges* — https://archive.org/stream/gov.in.is.sp.46.2003/is.sp.46.2003_djvu.txt
13. CUNY City Tech, *Creative Perspective* — Ch. 4 One-Point Perspective — <https://openlab.citytech.cuny.edu/woolley-comd1103fa17/files/2016/10/Creative-Perspective-CH4.pdf>
14. Carnegie Mellon University, *Central Projections* — <https://www.andrew.cmu.edu/user/ramesh/teaching/course/48-175/lectures/11.CentralProjections.pdf>
15. University of Utah, *Mathematics of Perspective Drawing* — <https://www.math.utah.edu/~treiberg/Perspect/Perspect.htm>
16. University of Illinois, *Horizon and Zenith* — <https://new.math.uiuc.edu/public403/perspective/alberti/horz.html>
17. University of Illinois, *Linear Perspective* — <https://new.math.uiuc.edu/public403/perspective/alberti/alberti.html>

18. UC Berkeley CS184, Perspective / Vanishing Points — https://people.eecs.berkeley.edu/~sequin/CS184/LECT_2011/L20.html
19. California State University Northridge, Perspective notes — https://www.csun.edu/~ac53971/pump/20100330_perspective.pdf
20. University of New Mexico, Perspective Viewing — <https://www.cs.unm.edu/~joel/cs413/notes/CS-413-Chapter8-PerspectiveViewing.pdf>
21. University of Wisconsin, Image Formation / Vanishing Points — <https://pages.cs.wisc.edu/~dyer/cs534/slides/07-image-formation.pdf>
22. Cornell University, Single-View Modeling / Vanishing Points — https://www.cs.cornell.edu/courses/cs5670/2021sp/lectures/lec12_singleview_for_web.pdf
23. Open University / OpenLearn, Types of Perspective — <https://www.open.edu/openlearncreate/mod/page/view.php?id=156209>
24. Perspective Resources, Principles — <https://perspectiveresources.blogspot.com/p/principles.html>
25. Wikipedia, Vanishing point — technical overview — https://en.wikipedia.org/wiki/Vanishing_point
26. Lemoore College, Drawing Perspectives Volume 2 — <https://lemoorecollege.edu/oer/documents/final-draft-art-005b-digitalpdf.pdf>
27. Bakersfield Museum of Art, Art Project: Perspective — <https://www.bmoa.org/art-project-perspective>
28. Museum of Latin American Art (MOLAA), 1 Point Perspective — <https://molaa.org/resource-type/2024/5/28/1-point-perspective>
29. University of Evansville Studio Chalkboard, Seeing One Point Perspective — <https://studiochalkboard.evansville.edu/lp-seeing.html>
30. Studio Matrix, One-Point Perspective — Drawing Fundamentals — <https://www.studiomatrix.org/students/drawing-fundamentals/one-point-perspective>
31. Westmoreland Museum of American Art, One-Point Perspective Drawing — <https://thewestmoreland.org/blog/art-making-project-one-point-perspective-drawing/>
32. District of Columbia Visual Arts Standards — glossary — https://osse.dc.gov/sites/default/files/dc/sites/osse/publication/attachments/Arts_Standards_2008_OCR_part%202.pdf
33. Getty Education, Pearblossom Highway perspective lesson — https://www.getty.edu/education/teachers/classroom_resources/curricula/arts_lang_arts/a_la_lesson24.html
34. DIY.org, Draw in Perspective — <https://www.diy.org/challenges/draw-in-perspective>
35. Mennello Museum, One-Point Perspective Family Funday — <https://www.mennellomuseum.org/Education/Free-Family-Funday-Archive/March-2025>
36. Oak National Academy, One Point Perspective KS3 — <https://www.thenational.academy/teachers/programmes/design-technology-secondary-ks3/units/communication/lessons/one-point-perspective>
37. Student Art Guide, One Point Perspective Drawing: The Ultimate Guide — <https://www.studentartguide.com/articles/one-point-perspective-drawing>
38. Mrs. Chehrehisa Visual Arts, One-Point Perspective — <https://www.artschoool.ca/art-making-techniques/drawing/one-point-perspective>
39. Ran Art Blog, Perspective Drawing Guide — <https://ranartblog.com/blogarticle19.html>
40. Drawing Week Brussels, Perspective Drawing Tutorial — <https://drawingweek.brussels/guides/perspective-drawing-tutorial>
41. Clip Studio Tips, Can you better draw a sense of three-dimensionality? — <https://tips.clip-studio.com/en-us/articles/10644>
42. BibleMouse, Horizon Line and Vanishing Point — <https://www.biblemouse.com/curriculum/4/art/day/17/>
43. Arts Impact, Grade 8 One-Point Perspective — <https://arts-impact.org/wp-content/uploads/2015/10/1-One-point-Perspectivite-Buildings-in-Cities.pdf>
44. Primary School Art, One Point Perspective Bedroom — <https://primaryschoolart.com/2020/10/02/one-point-perspective-bedroom-year-5-6-art-lesson/>
45. Art Projects for Kids, City with One Point Perspective — <https://artprojectsforkids.org/draw-a-city-with-one-point-perspective/>
46. Erika Lancaster, Drawing a Room Using One-Point Perspective — <https://www.erikalancaster.com/art-blog/how-to-draw-a-room-using-1-point-perspective>
47. Clip Studio Tips, Basic Perspective — Vanishing Points and Simple Backgrounds — <https://tips.clip-studio.com/en-us/articles/4301>
48. Courtney Marie Taylor, Landscape Lesson in One Point Perspective — <https://www.courtneymarietaylor.com/blog/landscape-lesson-in-one-point-perspective>
49. HelloArtsy, One Point Perspective Drawing — <https://helloartsy.com/one-point-perspective/>
50. Muus Art, 4 Easy Steps for One Point Perspective — <https://muusart.com/blog/one-point-perspective-drawing/>
51. Artistic Designers, Mastering One-Point Perspective — <https://www.artistic-designers.com/mastering-one-point-perspective/>
52. Domestika, What Is the Vanishing Point and How to Use It? — <https://www.domestika.org/en/blog/11496-what-is-the-vanishing-point-and-how-to-use-it-in-your-drawings>
53. Study.com, One Point Perspective in Drawing — <https://study.com/academy/lesson/one-point-perspective-drawing-definition-examples.html>
54. Alabama Art Supply, Perspective Drawing Series — One-Point — <https://www.alabamaart.com/blogs/studionotes/perspective-drawing-series-lesson-2-one-point-perspective>
55. Drawing and Painting (Wix), One-Point Perspective — <https://mail07077.wixsite.com/drawingandpainting/one-point-perspective>
56. Grid Maker Pro, One Point Perspective Guide — <https://gridmakerpro.com/grids/perspective/1-point/>
57. XPPen, Perspective Drawing for Beginners — <https://www.xp-pen.com/blog/easy-2-point-perspective-drawing-for-beginners.html>

58. Pia's Art Blog, One Point Perspective — <https://piaart.wordpress.com/grade-7/one-point-perspective/>
59. Craftsby, The Basics of Three Point Perspective (one-point recap) — <https://www.craftsy.com/post/three-point-perspective>
60. Brigham Young University–Idaho ART 110, Basic Perspective: Converging Lines — https://courses.byui.edu/art110_new/art110/week01/converging_lines.html
61. Art Institute of Chicago archive, What Is Perspective? — <https://archive.artic.edu/sciarttech/2d1.html>
62. Brigham Young University–Idaho ART 110, Photograph exercise — https://courses.byui.edu/art110_new/art110/week07/photograph.html
63. University of Houston teacher resource, Hands-on Geometry / Perspective — <https://www.uh.edu/honors/resources-for-teachers/houston-teachers-institute/other-resources/pdfs/2004/hands-on-geometry-how-we-can-use-geometry-to-see-the-world-aro/day.04.geometry.pdf>
64. San José State University, Drawing 1 glossary — https://www.sjsu.edu/art/docs/greensheets/syllabi_2214_fall2021/ART_024_01_Znamirowski_Lucia_Fall%202021.pdf
65. KuraPlan, Observing and Perspective — Year 8 — <https://www.kuraplan.com/uk/plans/observing-and-perspective->
66. SlideShare, One Point Perspective — <https://www.slideshare.net/slideshow/one-point-perspective-6906633/6906633>
67. Life Drawing Academy, 16 Types of Perspective — <https://lifedrawing.academy/life-drawing-academy-news/16-types-of-perspective>
68. Cleveland Museum of Art, Perspective activity — <https://www.clevelandart.org/perspective>
69. Grinnell College Museum of Art, One-Point Perspective: Piranesi — <https://www.grinnell.edu/campus-life/arts-culture/museum/educational-resources/one-point-perspective-giovanni-battista-piranesi>
70. Contemporary Art Museum St. Louis, One-Point Perspective activity — https://camstl.org/wp-content/uploads/2020/12/FA20_Drawing-from-Observation.pdf
71. Ashmolean Museum, Focus on Perspective in Art — teacher notes — https://www.ashmolean.org/sites/default/files/ashmolean/documents/media/focus_on_perspective_in_art_teacher_notes.pdf
72. Academy of Art University, Grade 4 One-Point Perspective Architecture — https://2025springshow.academyart.edu/wp-content/uploads/AB_Lesson-Plan-2.pdf
73. University of California Riverside, Drawing the Landscape in One-Point Perspective — https://gluckprogram.ucr.edu/sites/default/files/2018-08/A13_OnePointPerspective.pdf
74. West Dean College, Perceptual Skills of Drawing — <https://assets.westdean.ac.uk/pdfs/original/39925-perceptual-skills-of-drawing.pdf>
75. Craftsby, Drawing a One-Point Perspective Room — <https://www.craftsy.com/post/one-point-perspective-drawing-a-room>
76. Concepts App, Learn to Draw Part 3 — <https://concepts.app/en/learn-todraw/learn-to-draw-part-3/>
77. Haydn Symons, Complete Perspective Guide — <https://www.haydnsymons.com/blog/how-to-create-point-perspective/>
78. My Drawing Tutorials, One Point Perspective Definition — <https://mydrawingtutorials.com/one-point-perspective-definition/>
79. My Drawing Tutorials, Vanishing Points / Horizon / Cone of Vision — <https://mydrawingtutorials.com/linear-perspective-drawing-vanishing-points-horizon-line/>
80. Bellevue College, Traditional Types of Space Indication — <https://www2.bellevuecollege.edu/artshum/materials/art/Luark/Spring2004/110/TraditionalTypesofSpace.htm>
81. Harvard University, A Guide to Writing in Art History — https://writingproject.fas.harvard.edu/file_url/135
82. Yale-New Haven Teachers Institute, The Illusion of the Renaissance — <https://teachersinstitute.yale.edu/curriculum/units/files/86.03.08.pdf>
83. Princeton University COS 429, Lecture 2: Image Formation and Capture — https://www.cs.princeton.edu/courses/archive/fall17/cos429/notes/cos429_fall2017_lecture2_cameras.pdf
84. MIT 6.869, Image Formation lecture notes (2022) — https://6.869.csail.mit.edu/sp22/lectures/L2/image_formation2022.pdf
85. Stanford University CS231A, Single-View Metrology lecture notes — https://cvgl.stanford.edu/teaching/cs231a_winter1415/lecture/lecture4_single_view_metrology-3_notes.pdf
86. University of Oxford AIMS CDT, Exercises from Lecture 3 (HT 2017) — <https://www.robots.ox.ac.uk/~dwm/Courses/AIMS/questions.pdf>
87. University of Cambridge Engineering Tripos Part IIB 4F12, Computer Vision and Robotics — <https://teaching.eng.cam.ac.uk/system/files/P2B2005MF012.pdf>

Homepage replacement: 87-source audit

Suggested replacement table and text for the PRC homepage. Percentages refer to the audited sources only and are not population estimates.

Teaching approach	Sources	Percentage	Teaching result
Direction-derived principle correctly explained	30	34.48%	Correct teaching
Directional principle omitted; conventional central one-point model substituted	49	56.32%	False teaching by omission / substitution
Conceptual conflation; sight line, horizon line, central vanishing point or related element explicitly presented as determining convergence	8	9.20%	Explicitly false teaching
False teaching overall	57 of 87	65.52%	Underlying determining principle not correctly taught

An expanded audit of 87 treatises, textbooks, university and school teaching sources, and online instructional materials found that only 34.5 per cent correctly taught the general directional principle underlying the vanishing point. In 65.5 per cent, the determining principle was not correctly taught: it was either omitted while the conventional central one-point construction stood in its place, or replaced by an explicitly false causal explanation.

Because teaching necessarily explains a subject, omission of the actual determining principle is not a neutral absence of detail: where another model is allowed to stand in its place, the learner is being given a false explanation of why one-point perspective works.

University teaching

University teaching showed the same divide. The enlarged audit contains 25 university-affiliated perspective or vanishing-point teaching sources from 23 institutions; 9 of 25 (36%) fail the directional-principle test — eight by omission/substitution and one by explicit conceptual error. In the seven newly targeted high-profile resources, Princeton, MIT, Stanford, Oxford and Cambridge teach the direction-based geometry correctly, while the specific Harvard and Yale-New Haven Teachers Institute resources inspected omit the determining directional principle.

Four Ivy League or Ivy-affiliated resources are represented in the audit — Cornell, Harvard, Princeton and the Yale-New Haven Teachers Institute resource — with two correct and two false-by-omission results. These classifications apply only to the specific public resources examined, not to all teaching at those institutions.

Research implications for the PRC argument — revised 87-source audit

- The enlarged audit strengthens the claim that the pedagogical problem is systematic rather than anecdotal: the horizon + chosen-vanishing-point model is widespread across introductory teaching, and the added university extension shows that omission/substitution also appears in high-profile academic resources.
- The revised terminology should still be used with source-level precision. B means false teaching by omission/substitution under the explicit criterion adopted here; C is reserved for an explicit false causal statement. Neither classification should be inflated into a claim that an entire institution teaches perspective incorrectly on the basis of one audited resource.
- The historical and technical A sources demonstrate that the general direction principle is established geometry. The PRC contribution can therefore be framed around recovering, naming, systematising and generalising that principle — and showing how the special one-point coincidence can conceal it in elementary teaching.
- A future publishable study should pre-register a search protocol, define inclusion/exclusion rules, sample by date and source type, and ideally use a second independent coder. The present 87-source audit is strongest as an evidential and comparative study, not a population estimate.

Bottom line. In this 87-source audit, 30 sources (34.48%) correctly retain the general direction-based geometry, 49 (56.32%) omit it while substituting the conventional one-point model, and 8 (9.20%) state an explicit conceptual error. On the teaching criterion adopted here, 57 of 87 sources (65.52%) therefore give false teaching by omission/substitution or explicit error. Within the university-only subset, 9 of 25 sources (36%) fail the directional-principle test.