

## The aesthetic dimensions of perspective in high school students' drawings

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**Abstract**

Learning through art contributes to organizing the educational process and achieving the desired educational goals. It also conveys diverse experiences to students through new methods that meet the requirements of educational and technological development in cultural societies. One such method is employing the rules of perspective in drawing, as it is one of the cornerstones for evaluating artwork aesthetically and functionally. Perspective, as an artistic term, has contributed to enriching artistic expression among secondary school students by changing the appearance of the artwork and its relationships in general. It has also helped in establishing structural and compositional foundations for the artistic form, which is subject to aesthetic controls based on a geometric and linear system. This enables the student to master the basic skills necessary for drawing and to find new formative starting points that contribute to enriching students' artistic expression.

The research population consisted of 217 drawings created by secondary school students from schools in the Hilla/Babylon district. To achieve more accurate results and fulfill the research objective, the researcher selected five samples. The descriptive-analytical method was used for analysis, focusing on observing and analyzing phenomena to uncover scientific and objective facts, thanks to its precision.

The research also included findings and conclusions. Among the most prominent conclusions were:

1. The formal structure of the artworks created by secondary school students relies on organizing spatial relationships according to a geometric system.
2. The compositional structures serve to emphasize a rational character, expressing the effectiveness of mathematical and scientific principles in constructing the overall visual unity of the artwork.
3. The perspective levels vary horizontally and vertically within the pictorial surface structure, according to geometric principles that govern the internal structure of the artwork.

The researcher also presented a set of recommendations and suggestions related to the research topic.

**Keywords:** Dimensions, Aesthetics, Perspective.

### Chapter One

#### **First: The research problem:**

The major shifts in the education system have resulted in many challenges, most of which are connected to the learner, more particularly in relation to their education, among other things they must acquire through the educational curricula. The curricula are key in the educational process across various fields, especially in art education, which seeks to amalgamate the experiences of secondary students and increase their intellectual, emotional, and social competence, besides developing artistic skills. Learning through art aids in the organization of the educational process and the realization of the intended educational aims. It conveys various experiences to the learners using novel approaches tailored to satisfy the requirements of the educational and technological advancements in a cultural society. Art enables people to benefit from their sense organs and capabilities, acting as a means of expressing emotions and ideas, and creating individual and psychological harmony. It also offers an opportunity to rebuild self-confidence and

contributes to the diversification of skills and hobbies. <sup>(1)</sup>One such method is employing the rules of perspective in drawing, as it is a cornerstone of evaluating artwork both aesthetically and functionally. Furthermore, learning the rules of perspective enables the student to make changes and adjustments to their performance, bringing it closer to the desired outcomes, that is, to the aesthetic appreciation of art. <sup>(2)</sup>Perspective is one of the important foundations in the completion of the drawing, for its legitimacy and identity expressing its realism as an academic style that contributes to enriching artistic expression among high school students, by bringing about a change in the appearance of the artistic image and its relationships in general, and laying structural and constructional foundations for the artistic form, which is subject to aesthetic controls based on a geometric and linear system.

Thus, the current research problem is defined by the following questions: What are the aesthetic dimensions of perspective in the drawings of secondary school students? And what is the mechanism of the operation of this system in secondary schools?

Second: The Importance and Need for the Research:

1. This research benefits art students and enthusiasts by providing insight into the details and results of the current study.
2. It helps to develop aesthetic and structural perspectives and data related to perspective.
3. It contributes to enriching art teachers with further concepts and ideas related to perspective.
4. It investigates the actual integration of perspective within the art education curriculum in secondary schools (intermediate and preparatory levels), as it is a crucial topic for teaching students how to acquire the necessary skills for successful performance.

Third: Research Objective: The current research aims to:

Identify the aesthetic dimensions of perspective in the drawings of secondary school students.

Fourth: Research Scope: The research scope is as follows:

1. Temporal Scope – Academic Year (2024-2025).
2. Spatial Scope – Schools in the center of Babylon Governorate.
3. Thematic Scope – A study of the aesthetic dimensions of perspective in the drawings of secondary school students (intermediate and preparatory levels).

Fifth: Defining the search terms:

•Dimension

A - Linguistically: The word (distance) was mentioned in Mukhtar Al-Sahah with the meaning of “distance is the opposite of proximity and (he became distant) with a damma, so he is (distant), meaning (far away), and (he distanced him) and (he made him distant) and (he made him far away) and (he made him distant) <sup>(3)</sup>B- In technical terms: For Alloush, distance necessitates creating a clear emotional distance that separates the reader's personality from the artwork, which appears distant from the reader's experience. It is also defined as: distinguishing between the real and the illusory in the work. <sup>(4)</sup>(Gharbal) defines it as:

"Knowledge that is formed after the senses are able to gather data. A proposition is a posteriori if its truth

<sup>(1)</sup>Musa, Saadi Lafteh: Methods and Techniques of Teaching Arts, Al-Saadoun Press, Baghdad, 2001, p. 61.

<sup>(2)</sup>Nashwani, Abdul Majeed: Educational Psychology, 6th ed., Al-Risalah Foundation, Beirut, 1997, p. 509.

<sup>(3)</sup>Al-Razi, Muhammad ibn Abi Bakr ibn Abd al-Qadir: Mukhtar al-Sahah, Dar al-Risalah, Kuwait, 1983, p. 57.

<sup>(4)</sup>Alloush, Saeed: Dictionary of Contemporary Literary Terms, 1st ed., Lebanese Book House, Beirut, 1985, p. 51.

depends on experience of tangible reality. This is contrasted with a priori proposition, which is judged simply by looking at its structure." .<sup>(5)</sup>

The researcher agrees with (Alloush) in defining (dimension) operationally: creating a clear emotional distance that separates the reader's personality from the artwork, which appears far removed from the reader's field of experiences.

- **Aestheticism**

**Aesthetic:**

A - Linguistically: The word (beauty) appears in Lisan al-Arab with the meaning: "goodness, which is in action and character. Beauty is the source of the beautiful, and the verb is 'jamal,' meaning to adorn or beautify. Adorning oneself means striving for beauty. Beauty applies to both forms and meanings." .<sup>(6)</sup>

B - In terminology: Beauty, according to (Saliba), is "synonymous with goodness, which is the proportion of organs, balance in shapes, and harmony in movements. The beautiful is the being in a way that is pleasing to nature and accepted by the soul." .<sup>(7)</sup> Stace defines it as: "A particular combination of sensory perceptions and mental concepts together." .<sup>(8)</sup> As Wahba defined it: "It is the quality that is observed in things and brings joy to the soul." .<sup>(9)</sup>

The researcher agrees with Stace in defining (beauty) operationally: it is a specific combination of sensory perceptions and mental concepts together.

Johnson defines aesthetics as: the love of beauty as it exists primarily in the arts, and in everything that captivates us in the world around us.<sup>(10)</sup> Croce defines aesthetics as: "one of the stages of the ascent of the higher spirit, and it represents the embodiment of the spirit in the individual being."<sup>(11)</sup> For Lotfi, aesthetics is: "the organization of visual units, within the scope of their relationship to the foundations of formal organization in design"<sup>(12)</sup>.

The researcher agrees with Lotfi's operational definition of aesthetics: the organization of visual units within the scope of their relationship to the principles of formal organization in design.

The researcher also formulated her own operational definition of aesthetic dimensions, in accordance with the requirements and objectives of the study, as: the extent of the aesthetic impact of secondary school students' drawings, through their structural positioning within the relationships of the artistic elements of perspective.

(<sup>5</sup>)Gharbal, Muhammad Shafiq: The Simplified Arabic Encyclopedia, Dar Al-Shaab for Printing and Publishing, Cairo, 1959, p. 382.

(<sup>6</sup>)Ibn Manzur, Jamal al-Din Muhammad ibn Mukarram al-Ansari: Lisan al-Arab, Vol. 13, Egyptian House for Authorship and Translation, Cairo, n.d., pp. 133-134.

(<sup>7</sup>)Saliba, Jamil: The Philosophical Dictionary, Vol. 1, Lebanese Book House, Beirut, 1973, pp. 407-408.

(<sup>8</sup>)Stace, Walter: The Meaning of Beauty; A Theory of Aesthetics, trans. Imam Abdel Fattah Imam, Supreme Council of Culture, 2000, p. 19.

(<sup>9</sup>)Wahba, Murad: The Story of Aesthetics, Dar Al-Thaqafa Al-Jadeeda, Cairo, 1996, p. 7.

(<sup>10</sup>)Johnson, R.F.: Aesthetics, translated by: Abdul Wahid Lulu'a, Dar Al-Hurriya Printing House, Baghdad, 1978, p. 269.

(<sup>11</sup>)Abu Rayyan, Muhammad: The Philosophy of Beauty and the Origins of Fine Arts, University Knowledge House, Alexandria, n.d., p. 58.

(<sup>12</sup>)Lutfi, Safa: Terms of Arab Islamic Art and its Philosophy, Ministry of Culture and Information, Babylon, 2001, p. 9.

- **Perspective**

**A - Linguistically:** The word (perspective) comes from the triliteral verb (to look) meaning: everything that is looked at, as in our saying: time is viewed or reading is viewed, etc.<sup>(13)</sup> The name of the perspective (Perspective) is derived from Latin, where the word (pers) means "through", and the word (pective) means "look", meaning: the shape through looking or perspective, and from it came the name (Perspective) in most European languages, to express the perspective<sup>(14)</sup>.

**B - Technically:** Perspective according to (Al-Shaykhli): "A set of rules or solutions that the artist has reached through the actual practice of the plastic arts, by which we are able to achieve the third dimension (depth) of the shapes and objects that we see and feel according to their position and distance from us and their relationship to each other on a flat surface of only two dimensions, which we call (the painting)"<sup>(15)</sup>. As (Lewis) defines it as: "A set of rules for analyzing shapes in order to obtain a vision that corresponds to the artistic form in an organized arrangement that aims to address visual problems in depth, expand and interpret their features; to obtain the easiest ways to clarify them with conscious experience"<sup>(16)</sup>.

The researcher agrees with (Al-Shaykhli) in defining (perspective) operationally: a set of rules or solutions that the artist has reached through the actual practice of the plastic arts, through which we are able to achieve the third dimension (depth) of the shapes and objects that we see and feel according to their position and distance from us and the relationship of some of them to each other on a flat surface with only two dimensions, which we call (the painting).

## **Chapter Two / Theoretical Framework**

First topic: Perspective: its concept, types, elements, and rules

Perspective is a mathematical phenomenon based on a set of geometric rules and solutions that depend on the position of the object as perceived by the viewer. Perspective has played a significant role in fundamental artistic treatments, as it reveals the true nature of objects.

"Perspective, as seen by the human eye, is an optical phenomenon whose definition includes physiological and optical factors. When a person looks at an object, two images of this object are formed for him, which coincide to give a single image containing that sensation that helps in appreciating depth. If we look at any object, we undoubtedly notice the effect that gives the characteristic of dimension to the visible mass. Perspective can be seen in all the optical effects around us; it makes nearby objects appear larger and distant objects appear smaller. This is what we find in nature around us, where we feel depth, three-dimensionality, and the third dimension through buildings, statues in squares, and other objects"<sup>(17)</sup>.

Perspective has gone through multiple stages of development throughout the ages. In the Renaissance, it was considered an important reference in perspective treatments, as it was employed to study architecture, as well as artistic treatments to create a three-dimensional pictorial surface that suggests depth. Perspective in the Renaissance is based on mathematical and physical analysis to create realistic art.

<sup>(13)</sup>Al-Daraiseh, Muhammad Abdullah, and others: The History of Graphic Design, Arab Community Library, Amman, 2010, p. 17.

<sup>(14)</sup>Hamada, Muhammad: Simplifying Perspective Drawing, Dar Al-Kutub Al-Ilmiya for Publishing and Distribution, Cairo, 1989, p. 7.

<sup>(15)</sup>Al-Shaykhli, Ismail Ibrahim: The Perspective, Dar Al-Kutub for Printing and Publishing, University of Mosul, 1999, p. 10.

<sup>(16)</sup>Malika, Louis: The different methods of drawing theatrical scenery; and the derivation of an innovative practical method, Egyptian General Book Authority, Cairo, 1986, p. 7.

<sup>(17)</sup>Abdul Azim, Ayman Farouk: The Art of Geometric Perspective, 1st ed., King Fahd National Library, Taif, 2011, p. 20.

Perspective remained an important positive factor for aesthetic employment in many artistic works with a distinctive character that is marked by a rational dialogue in seeing things. Therefore, its scope and use expanded to other lines of artistic activity such as drawing theatrical scenery and drawing panoramas, and it went beyond that to the martial arts and others. Also, most of those who worked with perspective in that stage and employed it in their works were architects, designers of decorations, engravers, and even those with artistic professions such as goldsmiths and decorators.<sup>(18)"</sup>

Indeed, the artist had a desire to represent visible reality, and this desire was influenced by the mentality and character of each civilization. This was sufficient for the diversity of methods of formulating visible reality from one era to another, and from one period to another. Therefore, it can be said that the artist, throughout the long stages of art history, was able to reach formal formulations and fixed geometric rules of perspective for formulating artistic elements and arranging them meticulously on a two-dimensional surface.

Therefore, "every artist must use perspective in his paintings as an academic process. Scientific perspective is considered one of the phenomena that move the basic line in formulating shapes, sizes, and form, as the artist's main goal is to create an artistic creation that attracts viewers to him. Also, in these cases, the artist tries to see the world through his artwork as pure, with a new creativity that appeals to hearts and eyes before addressing the mind ".<sup>(19)</sup>

**Types of Perspective:** Perspective is divided into the following types:

**Geometric Perspective:** This is considered "a means of expressing design ideas that can be seen in a three-dimensional form to showcase the aesthetics of a shape and its study through drawing, lines, and geometric planning. It is the language and method adopted by designers and engineers, both past and present, to express ideas and proposed designs for building architecture or for creating engineering, mechanical, and electrical components. Engineering drawing is also fundamental to the development of industries, due to its effective role in the emergence of building designs, precise measuring tools, and the use of high-precision machinery in production."<sup>(20)</sup> Geometric perspective is divided into three types:

**Eye-level perspective:** This is often parallel to the ground, allowing us to see objects to either side.

**Above-eye perspective:** This is above the horizon or line of sight, allowing us to see objects from above.

**Below-eye perspective:** This is below the horizon or line of sight, allowing us to see objects from below.<sup>(21)</sup>

**Linear perspective:** It is "the appearance of objects as determined by their positions and the relative distances between them. Horizontal lines appear to the viewer as if they meet at the vanishing point, and this convergence of lines leads to a feeling of the image's coherence and depth"<sup>(22)</sup> . "Linear perspective is based on a basic principle: the viewer stands facing a line that lies at the level of his sight, which is the horizon line, and that objects, whatever their position, have points on their first surface connected to a vanishing point located on the horizon line in the form of converging rays. Thus, linear perspective enables us to re-

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<sup>(18)</sup>Al-Shaykhli, Ismail Ibrahim: The Perspective, Dar Al-Kutub for Printing and Publishing, University of Mosul, 1999, pp. 180–181.

<sup>(19)</sup>Abbo, Faraj: The Science of the Elements of Art, Vol. 1, Delfin Publishing House, Milan, Italy, 1982, p. 220.

<sup>(20)</sup>Abdel-Azim, Ayman Farouk: The Art of Geometric Perspective, previous source, p. 11.

<sup>(21)</sup>Al-Laithi, Fadi Farouk: Architectural Perspective, Egyptian General Book Organization, Cairo, 1976, pp. 7-8.

<sup>(22)</sup>Al-Jumaili, Saddam: The Openness of the Visual Text, King Fahd National Library, Riyadh, 2018, p. 42.

represent shapes in a way that resembles their image in reality, but viewed from a precisely located point of view".<sup>(23)</sup>

This point is usually located along the horizon line, and is called the eternal endpoint. Views with one vanishing point appear, which is the easiest, followed by views with two vanishing points. Vertical vanishing points, where the vertical lines converge to a point in the sky, are less frequently used. These are called three-point vanishing binoculars in the case of one vertical point. If there are two vertical points, the perspective is called four-point vanishing. A perspective without a vanishing point occurs when the lines in the drawn reality are irregular, i.e., when they are not parallel<sup>(24)</sup>.

**Color perspective:** This refers to "representing visible objects on the surface of the painting as they appear to the viewer's eye in a certain position and at a certain distance and through different viewing angles"<sup>(25)</sup>. "The further things are from sight, the less clear their field of vision becomes, with lighter colors and less brilliance; to hide the details and spatial gaps with changes in air layers and the density of the separation between the viewer and the forms. The closer the forms are to the viewer, the clearer and easier they can be seen, and the features and colors appear distinct. Therefore, the artist resorts to showing the difference in the degree of value and light in the degree of brilliance of the color in order to suggest the third dimension and thus the feeling of distance and dimensions"<sup>(26)</sup>.

This is achieved by making the shapes in the foreground of the painting strong and more saturated colors, and as the shapes recede, the strength of their colors decreases so that they appear to fade into the later areas, and in this way the viewer can distinguish the shapes that are close from those that are farther away<sup>(27)</sup>.

### **Elements of Artistic Composition and Their Role in Perspective**

The elements of artistic composition are linked to one another through interconnected systems that create the illusion of perspective. These elements serve an aesthetic function in the compositional structure of a painting, in addition to their functional role. As structural and expressive units, they create a kind of visual relationship with artistic expression that possesses both aesthetic and functional value. This contributes to enriching the artistic aspect of perspective and understanding its geometric principles, which underpin the artwork. Among the most important elements of artistic composition are:

**First: The point:** It is the simplest and smallest of artistic elements. It exists in various shapes, directions, positions, areas, and colors. If points multiply and are scattered, they are capable of evoking a sense of movement<sup>(28)</sup>. A point is a location in space or void that has no length, width, or depth<sup>(29)</sup>. It is included in any composition, and wherever it is, it expresses nothing more than a spatial demarcation, because it evokes in the viewer a feeling that inclines them towards movement. This, in turn, stimulates a kinetic activity that is

<sup>(23)</sup>Bahnasi, Afif: The Aesthetics of Arab Art, Alam Al-Ma'rifah, Kuwait, 1979, p. 35.

<sup>(24)</sup>Abdel-Azim, Ayman Farouk: The Art of Geometric Perspective, previous source, p. 18.

<sup>(25)</sup>Abu Dabsah, Fidaa Hussein, et al.: Design: Foundations and Principles, 1st ed., Dar Al-A'sar Al-Ilmi for Publishing and Distribution, Amman, 2010, p. 17.

<sup>(26)</sup>Shawqi, Ismail: Art and Design, Alam Al-Kutub for Publishing and Printing, Cairo, 1999, p. 109.

<sup>(27)</sup>Nobler, Nathan: The Dialogue of Vision: An Introduction to Art Appreciation and the Ideal Experience, trans. Fakhri Khalil, 1st ed., Dar Al-Ma'mun for Translation and Publishing, Baghdad, 1987, p. 149.

<sup>(28)</sup>Shishter, Abdul-Muhsin Hussein, et al.: The Art of Decorative Design, 2nd ed., Educational Research Sector, Baghdad, 2008, p. 36.

<sup>(29)</sup>Riyad, Abd al-Fattah: Composition in the Fine Arts, 1st ed., Dar al-Nahda al-Arabiya, Cairo, 1973, p. 112.

not limited to the place defined by the point, but extends to the surrounding space. It is diverse in the spaces of the artwork, as it works to create the end of lines and their intersections, whether straight or curved. It represents the fundamental generator of all artistic and geometric forms. The point can also reveal the relationships between positive and negative space<sup>(30)</sup>. Achieving light value by increasing or intensifying the number of points in a specific area, where the light intensity values are better distributed through the repetitive gradient of the points. This necessarily allows for the illusion of three-dimensionality by moving from areas with high light value to areas with dim or low light value, thus achieving a chromatic depth for the artwork.

Secondly: The Line: The line is considered one of the important structural elements in the formation of perspective.<sup>(31)</sup> Through the line alone, the artist can express the size of the human body, the dimensions of the fabric covering that body, or depict nature or anything else.<sup>(32)</sup> This is because the line is a symbol in the visual arts, an indicator representing light, shadow, and the intervals between them. When it moves, it represents the separation between two surfaces: one symbolized by shadow and the other by light, or by negative and positive. It is a reduction of these two surfaces as a dividing line in its simplest form. The line is also a fundamental component of every form drawn in the formal composition of the visual arts. It is the basis for the formation of geometric, architectural, artistic, and letter drawings, symbols, shapes, and figures. The effectiveness of the line's movement depends on its quality and sensitivity in expression. Therefore, the dimensions in the line's flow and movement vary according to the purposes it symbolizes, such as length, width, and height, to form volume. Perspective is also considered the science of forming lines based on the appearance of objects in the various states that appear to the eye.<sup>(33)</sup>

Lines, therefore, constitute the structural framework of the image, separating areas of mass or color and playing an aesthetic role in its composition. Lines also have a symbolic function in visual expression. Straight horizontal lines suggest tranquility and stability. Vertical lines symbolize growing power, grandeur, and dignity. Curved lines suggest gentleness, tolerance, and softness, while intersecting lines suggest a state of instability.<sup>(34)</sup> Wavy, spiral, zigzag, and broken lines are dynamic, sensory lines that adapt themselves to all spaces through unexpected deviations in direction and extension, appearing to move forwards and backwards in one spatial plane to another, suggesting perspective.<sup>(35)</sup>

Third: Color: It is the symbolic quality that shapes the surfaces of objects and nature alike. It is the linguistic cover for the appearance and light of these forms, whatever their type. We always derive the power of its color formulation from the reliable source of nature before us, to which we resort when needed to help us utilize it in the field of composition for our artworks without resorting to literal imitation. As a result of the difference in the light value of color, warm colors bring their forms forward, while cool colors push their forms into the background of the painting.<sup>(36)</sup>

<sup>(30)</sup>Riyad, Abd al-Fattah: Composition in the Fine Arts, 1st ed., Dar al-Nahda al-Arabiya, Cairo, 1973, p. 112.

<sup>(31)</sup>Riyad, Abd al-Fattah: Composition in the Fine Arts, ibid., p. 121.

<sup>(32)</sup>Myers, Bernard: The Fine Arts and How We Appreciate Them, trans. Saad al-Mansouri et al., Maktabat al-Nahda al-Masriya, Cairo, 2002, p. 75.

<sup>(33)</sup>Abbo, Faraj: The Science of the Elements of Art, Vol. 1, previous source, pp. 143–157.

<sup>(34)</sup>Riyad, Abd al-Fattah: Composition in the Plastic Arts, previous source, pp. 121–131.

<sup>(35)</sup>Shirzad, Shirin Ihsan: Principles of Art and Architecture, Al-Yaqza al-Arabiya Library, Baghdad, 1985, p. 116.

<sup>(36)</sup>Abbo, Faraj: The Science of the Elements of Art, Vol. 1, previous source, p. 120.

Color is a property of objects, representing the characteristic that distinguishes their shape. It results from the eye's perception of different wavelengths of light. When light falls on an object, it absorbs some wavelengths and reflects others. This reflected portion affects the cells of the eye, causing it to perceive and understand color. The perception of color depends on three factors:

- Color attribute: What color is it? For example, a color is said to be red, yellow, or blue.
- Color intensity: The degree of clarity, brightness, and saturation. The stronger, more radiant, and brighter a color is, the more intense it is.
- Color value: The degree to which it is free from mixing with white.<sup>(37)</sup>

Color is the most important aspect of painting; indeed, it is the essence of painting and the source of richness in the greatest creative works of art. Colors provide us with information about the objects in the environment, which contributes to identifying, describing, and determining their position in space. They are not merely sensations on the retina; they are linked to processes of thought and emotions.<sup>(38)</sup> It is "an apparent property of all sensible forms, and it helps to emphasize the physical nature and texture of forms."<sup>(39)</sup>

Fourth: Form: "Form and ground appear as two important elements of artistic composition. Both arise from the existence of contrast, which works to show low-energy parts and high-energy parts, which are organized together within the general composition. The first is space and the second is form, and both exchange importance because they are necessary for perceiving the form's shape. The ground can be perceived through its large area, as it appears flat and is described as negative space, while the form represents positive space."<sup>(40)</sup>

The form arises from the succession of a series of adjacent and consecutive lines, which leads to the formation of a homogeneous space. The appearance of its outer boundaries varies according to the composition of the line that arises from its repetition and according to the direction and system of movement. Forms in art take on a number of classifications, such as geometric, natural, abstract forms, and others<sup>(41)</sup>. "Forms act as surfaces in their relationship to each other. Some move forward and some move backward, some move in a certain direction and some in another direction. These movements may have their compositional or symbolic connotations, and thus they lead us to create secondary spaces and voids that suggest the illusion of perspective"<sup>(42)</sup>

Fifth: Size: "It is what exists in every art; to enable the viewer to perceive the dimensions of length, width, and thickness. Sizes can be known through the surrounding lines that give each composition its shape, and they can also be known through the types of contrast between light and dark tonal shades of the object,

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<sup>(37)</sup>Abu Hantash, Mahmoud: Principles of Design, Dar Al-Baraka for Publishing and Distribution, Amman, 2000, pp. 11-12.

<sup>(38)</sup>Abdel Hamid, Shaker: The Creative Process in Photography, Alam Al-Ma'rifah, Kuwait, 1987, pp. 14-15.

<sup>(39)</sup>Read, Herbert: Cultivating Artistic Taste, 2nd ed., trans. Youssef Mikhail Asaad, Dar Al-Nahda Al-Arabiya, Cairo, 1975, p. 46.

<sup>(40)</sup>Scott, Robert Gillam: Foundations of Design, trans. Abdel Baqi Muhammad Ibrahim, Dar Nahdet Misr for Printing and Publishing, Cairo, 1980, pp. 20-22.

<sup>(41)</sup>Shawqi, Ismail: Art and Design, Faculty of Art Education, Helwan University, Cairo, 1999, p. 164.

<sup>(42)</sup>Abdul Hamid, Shaker: Aesthetic Preference: A Study in the Psychology of Artistic Appreciation, Alam Al-Ma'rifah, Kuwait, 2001, pp. 266-267.

through the shadows reflected on it. This factor also gives us a sense of connection and the ability to see the emotions of other people when they touch, lift, or break a solid object.”<sup>(43)</sup>

Volumes are divided into three types: geometric, natural, and artificial. For these objects and volumes to exist, they must conform to the laws of proportion in space. This means they must appear clearly in a given space. The more favorable the proportions of the volume placed within that space, the more prominent and impactful the object or volume becomes, possessing both functional and aesthetic significance.<sup>(44)</sup> The volumes of artistic compositions influence the perception process, creating an illusion of perspective through the contrast in the sizes of the forms. Small volumes appear distant from the viewer's eye, while large volumes give the impression of being close. The spatial illusion is achieved through variation and change in the sizes of the forms.

Sixth: Space: “In art, as in nature, space is formed in light of the position occupied by simple, flat surfaces. These surfaces vary in size and tend, by the effect of color and shadow, to recede or advance, or remain still in their own context. In nature, every surface, or everything, is different in color and value from everything around it. The same thing happens in the painting as well. The surface must be different from everything else. This contrast or opposition is determined by the relative strength through which the surfaces or things are present, as well as by the different spatial relationships between them. And especially by the idea of perspective in its various forms.”<sup>(45)</sup>

Successful design in artistic compositions must take into account both positive and negative visual elements. Negative elements are not negligible quantities; rather, they represent an active and effective part of the artwork.<sup>(46)</sup> Every surface we form within space leads to meaning in perception, and the angles that form that surface have significance and meaning, all differing according to their composition. An acute angle has a meaning different from a right angle. When angles meet, they form a specific surface, and this specific surface, along with another surface, forms two new faces of a specific volume, with a third face forming the volume in the case of perspective. Also, surfaces with specific angles must have different tonal and luminous degrees that reflect light and shadow to show the grandeur of geometric shapes and volumes”.<sup>(47)</sup>

“Perspective includes a set of rules and solutions that the designer has reached through the actual practice of the plastic arts, through which we are able to achieve the third dimension that we see and feel on a two-dimensional flat surface. Also, applying the rules of perspective helps to express the shapes and subjects that we see, according to their location, distance and the relationship of those shapes to each other”<sup>(48)</sup>.

The rules of perspective can be summarized as follows:

- Parallel lines appear closer together as they recede from the viewer.
- Lines of equal size appear smaller as they recede from the viewer.

<sup>(43)</sup>Myers, Bernard: The Visual Arts and How We Appreciate Them, 1st ed., trans. Saad Al-Mansouri, Al-Nahda Al-Masriya Library, Cairo, 2002, pp. 244-245.

<sup>(44)</sup>Abbo, Faraj: The Science of the Elements of Art, vol. 1, previous source, pp. 339-340.

<sup>(45)</sup>Abdul Hamid, Shaker: Aesthetic Preference; A Study in the Psychology of Artistic Taste, previous source, p. 267.

<sup>(46)</sup>Riyad, Abdul Fattah: Composition in the Visual Arts, previous source, p. 158.

<sup>(47)</sup>Abbo, Faraj: The Science of the Elements of Art, Vol. 1, previous source, p. 343.

<sup>(48)</sup>Al-Shaykhli, Ismail Ibrahim: Perspective, previous source, p. 10.

- Objects of equal size appear smaller in size or area as they recede<sup>(49)</sup>.

## Section Two

### **The Role of Perspective in Enriching the Artistic/Cognitive Aspects of High School Students**

Perspective drawing is one of the most important practical and applied subjects for high school students, as it contributes to developing their creative abilities and artistic skills. Therefore, it is essential to be familiar with its rules and principles, as well as how to apply it on paper. Furthermore, students must understand its concepts and foundations and how to acquire the necessary skills for successful application.

The study of perspective is not limited to knowing the final form of the artwork; rather, it also requires knowing the successive stages and steps of how it is executed, the sequence of intellectual and planning processes of perspective, and considering all the lines executed for the form and developing an initial conception of how it could be in reality. Perspective is the result of abilities represented in intelligence and artistic abilities together.

However, “the mistakes that often occur in the art of drawing arise from the ignorance of most students of the rules and theories of perspective and from their reliance on their prior knowledge of the true dimensions of the object without paying attention to the differences or changes that occur to these dimensions simply by looking at them. The main purpose of studying the rules of perspective is to represent objects on a fixed, flat surface. Representing objects means drawing them accurately in a way that expresses their shapes and dimensions, to give vivid images of the object, not as it is in reality, but as it appears to the viewer’s eye in a certain position and at a certain distance.”<sup>(50)</sup> Thus, “the value of a work of art lies in discovering its basic material first, then its formal elements, and finally its foundations, which help to increase our understanding of what we call the innovative means. A person who is interested in reading something about a work of art full of artistic expressions used can understand relatively what the artist was trying to do and at the same time be able to raise the level of his perception and appreciation from this point of view.”<sup>(51)</sup> Therefore, the study of perspective is one of the most important topics related to the analytical study of artwork in general and the field of art education for the secondary stage in particular. Perspective is thus a creative work produced according to a set of organizational mechanisms related to the geometric specificity of the artistic form, and stimulating the students’ imagination to create an artwork subject to the organization of lines, colors and other elements with a tangible form that expresses ideas in an aesthetic and functional way.

A student in adolescence, as a human being with a sense of sight, can perceive objects in the world they see and that we see (the real world). They can see objects, shapes, and bodies from the front, the side, or the back. However, the challenge lies not in seeing the shapes as they are, but in how to transfer and represent them as an educational and pedagogical exercise from nature, where three-dimensional forms are placed on paper or a surface. The mental process of translating the image of the shape in space and transferring it to paper is a crucial step in stimulating the student's intellectual potential and self-realization.

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<sup>(49)</sup>Al-Daraiseh, Muhammad Abdullah, et al.: A History of Graphic Design, previous source, p. 96.

<sup>(50)</sup>The above website is viewed on the internet: <https://www.alardha.com/blog/?p=13298>

<sup>(51)</sup>Riyad, Abdel Fattah: Composition in the Fine Arts, previous source, p. 236.

Working with the student to achieve this is essential.<sup>(52)</sup> Furthermore, one of the goals of art education in secondary schools generally considers that creation, innovation, and showcasing artistic beauty should not be the primary objective, but rather that expression should reflect inner conflicts.

Therefore, "teaching art in schools should have among its clear objectives a positive contribution to the formation of a well-adjusted personality, capable of interacting successfully in the life of society instead of withdrawing or isolating oneself. Thus, teaching art in schools is not an end in itself, but its purpose is clarified by its ability to refine the personality and build its emotional response, thereby achieving balance in society."<sup>(53)</sup>

Based on the above, artistic appreciation is difficult to teach; rather, it is acquired by the student through practice and training, provided that the student immerses themselves in the subject they wish to appreciate. Therefore, artistic appreciation cannot be acquired as an independent habit in isolation from other experiences. The learner must also be given the opportunity to balance aesthetic values and the rules of art, including the rules of perspective, which they use in their work, with the values and principles developed by other artists. This will give the learner the opportunity to feel connected to the creative abilities of others.<sup>(54)</sup> Furthermore, "the learner who suffers from the pressures of their continuous development and the pressures of strict school regulations can find psychological comfort in art education. Art, if used intelligently, can contribute to the learner's mental health by relieving them of pressures and giving them an opportunity to express meanings that cannot be conveyed through language."<sup>(55)</sup>

Art involves a complex creative activity related to the transformations that occur not only to the artwork itself, but also to the person who creates it. The primary goal of the artist is to transform perspective, elements of form, space, rhythm, color, and other components into a coherent and harmonious expression through which the artist conveys a message that is clarified by the material. This message may represent something, suggest something, or symbolize something.<sup>(56)</sup> Therefore, art in general, and perspective in particular, enables the learner to perceive the elements of the artwork within a geometric system. Every artwork has a specific system determined by numerous rules and elements that contribute to the composition or construction of its parts. This is linked to the artistic skill that the learner acquires through observation and practical experience.

What the student sees as shapes are three-dimensional objects—length, width, and depth—viewed from all angles. However, when drawing them, the student is dealing with shapes that have only two dimensions: length and width. These are highly precise mental calculations. Therefore, emphasizing the importance of teaching students the secrets of shapes, their dimensions, distances, and vanishing points through art education lessons on perspective is not only educational but also provides a foundation for other

(<sup>52</sup>)The above website is viewed on the internet:

<https://www.alardha.com/blog/?p=13298>

(<sup>53</sup>)Al-Basyouni, Mahmoud: Art Education and Psychoanalysis, 2nd ed., Alam Al-Kutub, Doha, 1983, p. 238.

(<sup>54</sup>)Al-Hilah, Muhammad Mahmoud: Art Education and its Teaching Methods, Dar Al-Masirah for Publishing, Distribution and Printing, Amman, 2008, p. 95.

(<sup>55</sup>)Fadl, Muhammad Abdul Majeed: Art Education; its approaches, history and philosophy, King Saud University Press, Riyadh, 1990, p. 21.

(<sup>56</sup>)Abdul Hamid, Shaker: The Creative Process; in the Art of Photography, previous source, p. 14.

subjects such as mathematics, physics, and geometry.<sup>(57)</sup> Thus, the importance of teaching perspective in schools lies in its being a science that students must consider. It helps to reveal the underlying concept of a geometric design and allows students to visualize the geometric shape in reality before its final form, with all its advantages and disadvantages. This underscores the importance of including the term "perspective" in the art education curriculum for secondary school students.

### **Indicators Concluded by the Theoretical Framework**

1. The concept of perspective has changed throughout different artistic periods. This has contributed to the emergence of structural forms that suggest a third dimension on the surface of a two-dimensional artwork.
2. Perspective is an applied technique that contributes to giving an artwork depth, dimension, and realism within a geometric system that relies primarily on the movement, quality, color, and light of lines, among other factors.
3. Perspective provides the viewer with added knowledge that contributes to the logical completion of the artwork through the use of structural relationships based on a precise geometric system.
4. Geometric, linear, and chromatic perspective are tools used by the artist to translate three-dimensional visual reality onto the two-dimensional surface of the paper.
5. Geometric perspective relies on a number of vanishing points, which are divided into spatial, horizontal, and terrestrial vanishing points. The perspective's interpretation varies through the diverse placement of these vanishing points, enriching the artwork with artistic and aesthetic values.
6. The formulation of color perspective depends on degrees of color saturation to express the proximity or distance of forms within the artwork.
7. The elements of artistic composition (point, line, color, shape, volume, space, or area) are primary expressive units that serve an aesthetic and functional purpose, encompassing multiple meanings within the overall structure of the artwork.
8. Perspective achieves visual enrichment through the distance or proximity of forms. This leads to the movement of the eye within the spaces of the artwork, which is based on multiple organizational geometric relationships governed by aesthetic, intellectual, and functional aspects.

### **Chapter Three / Research Procedures**

**Research Population:** The research population included (217) drawings executed by secondary school students, distributed across schools in the center of Hilla/Babylon, as shown in Table (1):

No.	School Name	Number of Students
1	Dr. Madiha Abboud Al-Bairmani Secondary School for Girls	55
2	Shatt Al-Arab Secondary School for Girls	44
3	14th of July Secondary School for Boys	33
4	Al-Waeli Secondary School for Girls	53
5	Al-Markazia Secondary School for Boys	32
<b>Total</b>		<b>217</b>

**Table (1)**

(<sup>57</sup>)The above website is viewed on the internet:

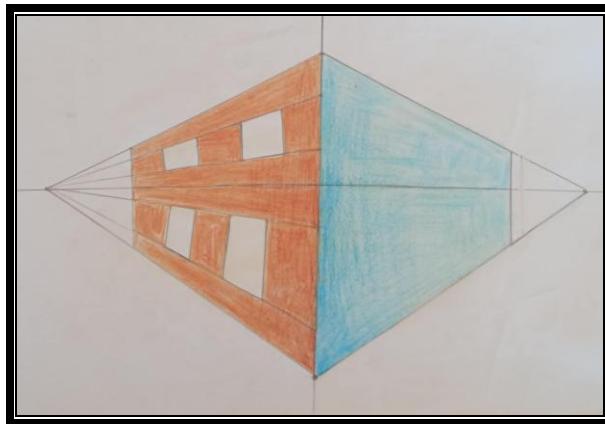
<https://www.alardha.com/blog/?p=13298>

**Research Sample:** In order to achieve more accurate results and to fulfill the research objective, the researcher selected five samples, which were chosen based on the opinions of a group of experts (\*) in art education and critical studies.

**Research Methodology:** In the current research, the researcher adopted the descriptive analytical method, which is concerned with observing and analyzing phenomena in order to reveal scientific and objective facts thanks to its accuracy<sup>(58)</sup>.

#### **Sample Analysis:**

Model (1)



Student's name: Karrar Ali Yassin

School name: 14 Tammuz Intermediate School for Boys

Age: 15 years old

Grade: First Intermediate

The artwork represents a geometric structure, governed by mathematical calculations, in terms of balancing masses in equal proportions on both sides. The horizon line divides the composition into upper and lower sections, a division that plays a crucial role in lending the composition a sense of stability and permanence.

The artwork's structure relies on lines as a key element in the technique of drawing the overall composition of the pictorial surface. Through the straightness of the form and its solid end, it creates a state of harmony between the two halves of the artwork and its constituent elements.

The artwork adheres to a rational formulation in its design through the meticulous precision of the geometric lines. The edges of the solid forms blend into the adjacent lines within its overall composition, radiating in varying directions around imaginary points at the center of the painting. The dominant principle is that of a cohesive mass with a taut appearance, projecting into the depths. This is reinforced by the orientation of the design's edges towards vanishing points. This makes the area near the center of the painting appear larger, as if it were closer to the viewer's eye than the smaller areas, thus creating a sense of spatial depth. The windows, incorporated into the cohesive mass of the design, also contribute to enhancing perspective depth and adding further aesthetic dimensions to the artwork.

In his architectural composition, the student relied on two primary colors: blue and brown and their various shades. These colors represent the boundaries of the form on one hand, and the meeting point of the two colors on the other. Consequently, this creates a sense of closeness and distance within the artwork's

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Assistant Prof. Dr. Israa Qahtan Jassim, Art Education, College of Fine Arts, University of Qadisiyah.

(58)Abdul Hamid, Muhammad: Content Analysis in Media Research, 1st ed., Dar Al Sharq, Riyadh, 1983, p. 5.

space, with darker colors appearing closer to the viewer's eye than lighter ones. Furthermore, the compositional structure of the artwork relies on the relationships between the colored surfaces and their spaces, and on the formative relationship connecting the parts of the cohesive mass of the artwork, which is geometric in nature, with its upper and lower sections, thus achieving a unified diversity in its geometric system.

We find that the elements of the artwork are guided by a disciplined artistic vision, subject to the unity of geometric design. The line is straight within its designed boundaries, without being free to move or veer. It defines and surrounds the formal compositions within the artwork's structure. Moreover, the geometric structure of the artwork is contained within rigid boundaries and edges, which the artist employed in its drawing to give the geometric form an impression of perspective depth within the pictorial surface.

The artwork was executed using a geometric technique that relies on mathematical proportions in structuring its lines and artistic colors, aiming to create an aesthetic balance between geometric form and color within the artwork's space.

**Model (2)**

Student's name: Abbas Haider Razouqi

School name: Al Markaziya Intermediate School for Boys

Age: 14 years old

Grade: Second Intermediate

The artwork's compositional structure consists of several formal elements, represented by a railway track, which takes a pyramidal shape pointing towards a single vanishing point on the horizon. Alongside the track are several electricity poles, while the other side contains a group of trees. All these elements are arranged in a way that achieves perspective depth from this single vanishing point.

The artwork's compositional structure demonstrates the student's ability to execute the artistic form with a masterful technique, employing straight lines arranged with regularity and high mathematical precision. The student relied on a mechanical approach, utilizing geometric tools to embody their conceptual idea, as well as moving all the artwork's elements towards perspective depth.

In working on the pictorial surface structure, the student employed three main elements. The first was space, which dominated the upper part of the compositional structure, while its presence diminished in the middle and lower parts of the artwork. The geometric lines, which formed the second element that gave an aesthetic dimension to the compositional structure of the work, were crowded together. Meanwhile, the color gradations formed the dominant element of the pictorial surface, achieving an illusory dimension that enhanced the work's strength and beauty.

Color plays a crucial compositional role, upon which the structure and aesthetics of the geometric forms are founded. The pictorial elements are colored within rigid boundaries and edges, relying on gradations of green and brown, distributed rhythmically and harmoniously across the pictorial surface to create the illusion of three dimensions. The color effects act as a foundation for the artistic forms,

contributing to pushing the elements towards perspective depth. Furthermore, the student employed the blue of the sky to provide color levels that enhance the formal and performative value of the artwork's structure. This also creates an aesthetic dimension for the overall work.

The pictorial surface adheres to a geometric system, and the student treats the artistic forms with a limited degree of reduction and simplification. To maintain its connection to the real world and integrate it with one another, thus establishing its overall structure, its relationship to reality can be determined through its meanings stemming from its value in reality. This comes from the tight control over the movement of artistic elements within the artwork's space, aiming to achieve a cohesive internal coherence of the pictorial composition.

Furthermore, the design structure of this artwork is based on the idea of combining artistic forms and space by introducing geometric lines into the spaces surrounding the artwork, acting as a dividing line between them. At the top of the painting, a straight line serves as an imaginary horizon line, separating the sky, colored in shades of blue, from the ground crowded with its formal elements, thus emphasizing the artwork's belonging to lived reality.

**Model (3)**

Student's name: Shams Ali Adnan

School name: Al-Waili Intermediate School for Girls

Age: 15 years old

Grade: Third Intermediate

The artwork depicts the interior of a room drawn from a single vanishing point. The canvas is divided into five distinct levels: the floor, the ceiling, and the four walls. The composition is structured according to the distribution of the artistic forms, a distribution governed by perspective. The framed painting occupies the left side of the canvas, while the decorative plant is on the right. The bed is in the foreground, and the lighting fixture is positioned at the top.

The artwork incorporates a geometric arrangement of the forms, through which the student achieves the illusion of linear perspective. This is achieved through a gradual increase in volume towards depth, creating the impression of distance between the forms, with the bed appearing closest to the viewer's eye. Adding to this feeling was the contrasting tonal values of brown. The hues of dark brown shades conveyed a sense of forward movement. Furthermore, the bed's position relative to the image plane, appearing close to the bottom of the painting, contributed to the spatial differences between the depicted forms. This enhanced the illusion of perspective depth, creating a regular visual transition that draws the viewer into the depths of the pictorial surface.

The compositional structure of the artwork relied on color fields subject to chromatic perspective through multiple color gradations. These gradations gave the artistic form a compositional significance upon which the overall structure of the artwork was founded, thus achieving a clear sense of inward depth. Forms closer to the image plane appeared to the viewer's eye and possessed distinct details compared to those protruding into the depths.

The artwork incorporated structural relationships that had a clear impact on the composition of its elements. The relationships connecting the parts of each element were geometric in nature, uniting them to form design elements that reinforced the illusion of depth. Lines surround the forms with geometric boundaries, fading into their overall space. Within these boundaries, colors are arranged rhythmically in a balanced and regular pattern, thus creating the visual value of the artwork.

The formal structure of the artwork's space surrounds the main composition of the pictorial surface, granting the artwork an aesthetic and formal dimension. It also creates a kind of visual and chromatic tension for the formal elements. The artwork reveals the relationship between the color surfaces and their spaces, and between the connecting formations of the formal elements, which are geometric in nature, within the overall artwork. The pictorial surface is framed within a single space, the composition of which is based primarily on areas of color that take the form of adjacent and arranged lines in a geometric order, forming different paths of lines within an aesthetic artistic law that establishes the geometric structure of the artwork.

**Model (4)**

Student's name: Ruqaya Sajid Muhammad Ali

School name: Dr. Madiha Aboud Al-Birmani Preparatory School

Age: 15 years

Grade: Fourth year.

The overall composition of the painting depicts a small cottage amidst a group of trees. These figures appear on a green background, ascending to the center of the painting. Additionally, a staircase, which appears at the bottom of the painting, ascends to the center, where it comes to rest on the edge of a cottage door. This staircase consists mainly of brown colors with minimal yellow details.

The composition of the painted figures follows a geometric order that is defined in terms of perspective. The student has positioned the figures on two levels of viewing. The staircase that stretches from the bottom of the painting towards the center symbolizes the first level of viewing, which is below the viewer's eye point, while the cottage and tree symbols are seen from a higher point, adding an effect of perspective. Likewise, colors in the painting are utilized in an attempt to add an effect of chromatic perspective, where one object is brought forward compared to another that is seen from a distance. Dark colors that appear at the lower end of the painting add an effect of distance, while other light-colored objects (light green) appear from a distance. In an effort to effectively employ space as an element of art, the student managed to create multiple chromatic dimensions within space itself. This was done through effective control of gradations of green from dark to light, where an additional dimension was introduced through light blue in terms of adding an effect of distance through incorporation of color perspective.

Moreover, the artistic elements' arrangement takes into consideration the use of different scales in the painting. The staircase, for instance, is characterized by different sections with varying scales, with the largest section located at the bottom part of the painting, which gradually gets smaller towards the center. This particular idea helps to achieve the establishment of spatial locations using artistic techniques that provide the illusion of geometric perspective in the spatial arrangement of the painting. The staircase located at the bottom part is closer to the viewer's eye point compared to the rest of the staircase receding into the

background. This is essential in attaining aesthetic values using contrasting ideas in the depiction of the different dimensions, which exhibit artistic expression in understanding the artistic perspective derived from the geometric arrangement of space depiction using different dimensions, with the establishment of formative spaces among the artistic elements in the artistic composition. Moreover, the presence of trees bordering the hut helps to provide stability to the spatial arrangement in the painting. The depiction of the ground in this context aids in providing dimension to the spatial location. This depth or perspective offers aesthetic values, manifested through the chromatic and compositional harmony of the drawn shapes. Each shape has its role in the surrounding space and also its role in showing what is around it with geometric visions that always try to blend all the elements of the painting and its colors.

**Model (5)**

Student's name: Lina Nawfal Ali Thahir

School name: Shat Al-Arab Preparatory School for Girls

Age: 16 years old

Grade: Fifth (Science)

The structural units of this artwork are organized according to a formal relationship based on a single vanishing point, embodied through the volumetric gradation of the trees towards the depths. The artwork includes a group of trees arranged geometrically within its structure, characterized by their extension as a series of successive and parallel trees towards the depths. The overall composition is linked to the geometric form and the use of a simple artistic shape represented by the tree, which, through its repetition and its relationship with the other elements of the artwork, gives the composition a quality of balance and stability. The distribution of the work's elements is sequential to ensure the continuity of the trees' distribution in a regular and gradual manner within the overall compositional space of the painting. This helps to make them appear cohesive and not separate, suggesting a spatial depth that extends towards the distant horizon. The gradual tonal variation of green was also present, prominently featured in the color of the trees, which emerged as a dominant element in the overall artistic composition. This color, through its organizational relationships, creates aesthetic proportions that generate a sense of spatial variation between the structural units within the artwork.

The general structural approach of the pictorial surface is based on the tonal gradations of green and gray, which form the foundation of the artistic composition in a seemingly cohesive unity. The student achieves this through the selection of darker colors to indicate nearby locations and lighter colors for locations farther from the viewer's eye.

The pictorial surface's compositional structure comprises two spaces. The first space is above the horizon line, encompassing the main composition of the painting. The second space contains the compositional elements below the horizon line. Both spaces possess an aesthetic and formal dimension, ultimately leading the overall composition to a single central focal point: the vanishing point.

The straight line, in both horizontal and vertical directions, also played a clear design role in the composition of the artwork, in terms of emphasizing the shapes of the pictorial spaces and connecting them with sharp edges, allowing the shapes and colors to fade into depth. The lines are formed in the structure of

the pictorial surface, according to a geometric tool, transforming artistic forms into visual perceptions that contribute to achieving perspective depth.

## **Chapter Four**

This chapter presents the results, as well as the conclusions, recommendations, and suggestions, as follows:

### **Results**

1. The organizational relationships between the elements of the artwork relied on perspective (linear, geometric, and chromatic) to create the illusion of perspective depth, as seen in all the models in the research sample.
2. The structural foundations of the artwork contributed to activating the various formulations of perspective in a way that enriches the artistic and aesthetic aspects of the geometric compositions, as seen in all the models in the research sample.
3. The line element is one of the structural elements of the artwork, contributing to the creation of perspective formulations that achieve structural and expressive values for the artistic forms, as seen in the research sample models (1, 2, 3, and 5).
4. Geometric perspective, with its formulations and mathematical laws, created the illusion of perspective depth, which aligns with the aesthetic dimensions of the artwork, as seen in the research sample models (1, 3, and 5).
5. The system of artworks is based on geometric and mathematical formal relationships, formed according to the elements of artistic composition (point, line, color, shape, size, and space), as seen in all the sample works.
6. Perspective depth is achieved by activating the functional and aesthetic role of space as an artistic force that contributes to generating multiple dimensions within the artwork. This is accomplished through the gradation of colors from dark to light, and the gradation of geometric sizes from largest to smallest, as seen in sample works (1, 2, 4, and 5).
7. The artistic forms in sample works (1 and 3) appear as solid and cohesive masses, linked by formal and chromatic relationships, according to a creative act that seeks to integrate the artistic elements into a geometric system.
8. The formal and compositional structure of the artwork often begins from one or more vanishing points, around which the surrounding spaces are organized, along with the artistic forms, as seen in all the sample works.
9. The artistic constructions are based on graduated levels of color capable of containing formal structures within perspective depth, allowing for a balance between mass and space within compositional treatments that stimulate the viewer's aesthetic sensibilities, as seen in the research samples (2, 4).
10. The artworks are based on a geometric character, linked to the specificity of the formal structure and the performative treatments of the elements of the artistic composition, within a design tendency that is sometimes characterized by geometric dimensions and at other times by aesthetic dimensions, as seen in all the research samples.
11. The aesthetic dimensions of the formal structures are based on rational references linked to mathematical relationships that rely on straight lines, vanishing points, and the horizon line as their foundation, as seen in all the research samples.
12. The compositional structures relied on the visual effects formed by straight lines, color gradients, and the activation of volumetric diversity of shapes within the overall building space, according to a stimulating property that responds to the coordinates of distance and proximity in the visual axis of the viewer's eye, as in sample models (1, 3, 5).

### **Conclusions**

1. The formal structure of the artworks created by secondary school students relies on organizing spatial relationships according to a geometric system.
2. The compositional structures serve to emphasize the rational character, expressing the effectiveness of mathematical and scientific principles in constructing the overall visual unity of the artwork.
3. Perspective, in the individual units of the artwork, becomes an aesthetic category reflecting the structural and conceptual qualities of the pictorial surface systems.

4. Perspective levels vary horizontally or vertically within the pictorial surface structure, according to geometric principles that govern the internal structure of the artwork.

5. The aesthetic dimensions of perspective art evoke conceptual and structural interactions through dominant relationships manifested in the geometric form and the spatial interplay of vertical and horizontal projections, creating an active structure that interacts with the overall context of perspective depth.

**Recommendations:**

1. Emphasize perspective in secondary schools by organizing festivals and art activities focused on perspective art.
2. Cultivate secondary school students' aesthetic appreciation of perspective by incorporating other types of perspective, such as spiral perspective in Islamic art, inverted perspective, and others, into the secondary school art curriculum.
3. Conduct workshops for secondary school students to introduce them to the importance of perspective, its types, rules, characteristics, and the aesthetic values it holds for enriching artwork.
4. Publish books and magazines specializing in perspective and make them accessible to secondary school students.
5. Support talented students in technical drawing and provide them with assistance to develop their creative potential by facilitating their participation in art exhibitions and festivals held both within and outside of schools.

**Proposals**

1. The aesthetics of perspective design structures in contemporary Iraqi painting.
2. The aesthetics of geometric perspective in book cover designs.
3. The functional and aesthetic dimensions of perspective in Islamic art.

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