朱向红 于 英 姜增彬/编著

环境设计双语教程

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内 容 提 要

本教程为环境设计专业设计理论、思想及方法的经典双语读物。教程将来自欧美的先进环境设计理念与极具针对性的具体创作方法相结合，内容经典实用，设计案例风格鲜明，分析透彻，语言准确、纯正且原汁原味。全书分为四章，分别阐述了室内设计、景观设计、建筑设计、城市设计及城市规划等四大部分的设计理念和方法，中英双语讲授，在学习先进设计理念精髓的同时，可进一步熟悉并掌握英语设计语言。

本教程可供高等院校环境设计、景观设计、建筑设计等相关专业师生使用，也可供环境设计、景观设计、建筑设计等行业的设计师参考。

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前　言

　　环境设计，涵盖室内设计、景观设计、建筑设计、城市设计及城市规划等学科的知识，既属于实用艺术的范畴，又包含科学技术的成分。环境艺术设计英语文献的阅读是把握本学科国际发展趋势与动态的基本手段。本书选材精到、注释得当，突出以下几个特点。

　　1. 由点及面，题材丰富，信息量大

　　本书包含与环境艺术设计息息相关的诸多内容，如室内设计、景观设计、建筑设计、城市设计及城市规划等内容，既可以拓展读者的专业阅读视野，了解并掌握学科国际发展最新动态，又能引发读者对英语学习的兴趣，继而熟悉并且掌握与环境艺术设计相关的知识信息。

　　2. 由浅入深，文字鲜活，双语互补

　　英语专业科技文献的统计资料显示，本专业常用术语只有几百个，它们在文献中重复出现的频率很高。本书将以环境艺术设计专业英语常见词语为突破口，语言地道鲜活，行文流畅，图例精美，可模仿性强，消除读者对英语专业文献阅读的恐惧，不仅有助于对文章的理解，更寓教于乐，有助于专业最新知识的提高。中英文两种语言互相补充，说明相关领域最新知识内容。

　　3. 理论与实践结合，实用性、可读性强

　　本书选材立足于环境艺术设计专业最急需了解的前沿思维方式、逻辑分析方法和图纸表达内容等，介绍环境艺术设计当前国际发展趋势与动态，剖析著名实例的特点与设计方法，图示翔实，理论深入浅出。在支持读者阅读方面，针对当前读者的"读图"心理需求和"用图"的专业习惯，全书利用图示，并用双语解读专业前沿知识，行文规范精炼。

　　本书可作为高等学校室内设计、环境艺术、景观设计、风景园林、城市设计及城市规划等专业学生的教材，也可供相关专业人士参考。

　　由于时间与水平所限，书中未尽之处，恳请读者批评指正。

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朱向红

2013 年 1 月

于广东工业大学

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前言

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Unit 1

Unit 1 Interior Design

1.1   Elements of Interior Design

现代室内设计在满足使用功能需求的基础上，强调视觉的吸引力，突出室内意境的创造。这种意境的创造，如同音乐、绘画和雕刻等艺术，存在着一定的要素和创作原理，设计中以这些创作原理为基础，变换各种设计要素——空间、线条、形状、色彩、质感等，突出场所特征和环境特色，塑造变幻万千的场所精神，如一个戏剧舞台，同样的空间，不同的设计要素，形成不同场所特征，可以是金碧辉煌的宫殿，也可以是原始质朴的洞穴。在这里，相同的是空间，不同的是设计要素。室内设计的目的是通过要素的设计来表现丰富的场所精神，在有限的空间内创造出无限的美感。

Figure 1.1-1 Using the Existing Space Effectively

Whether you are working with existing furnishings and fabrics or "starting from scratch[1]" with an empty room, you should always use the elements and principles of design as a guide in choosing everything. The elements are your tools or raw materials, much like paints are the basics to a painter. The elements of design include space, line, form, color and texture.

Space

Space defines the boundaries and sets the limits on the functional and decorative things you can do. Usually you will not determine the space; instead, you will be faced with the challenge of using the existing space effectively (Figure 1.1-1).

Line

The lines in a room are second only to color in importance when it comes to setting the overall mood or feeling of a room. The lines of window fashions should support the dominant line of the room. In most situations, the dominant line is straight—vertical, horizontal or diagonal[2], rather than curved. Your choice of emphasizing the direction of lines will determine the mood you want to create.

•Vertical lines add height and dignity, creating a more formal atmosphere.

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1. scratch [skrætʃ] *n.* 草图
2. diagonal [dai'ægənl] *a.* 斜线的

Vertical lines also balance the horizontal lines found in most furniture.

•Horizontal lines tend to create a restful, informal feeling. They work well in casual rooms or as relief to the strong verticals of formal rooms.

•Diagonal lines attract attention and lead the eye. They can be disturbing unless supported by verticals or opposing diagonals.

•Curved lines add a softening effect and keep the room from becoming too stiff. Use curved lines with some restraint to keep the room from becoming too soft and overly feminine (Figure 1.1-2).

Form

Lines that join together produce the form, or shape, of an object, which in turn impacts the overall feeling of a room. Straight lines create rectangles, square and triangles. Curved lines form circles and ovals. The rectangle is the most popular form and is often the dominant shape in a room. Triangles provide stability and curved shapes soften the contours of objects (Figure1.1-3).

Figure 1.1-2 Vertical Lines Add height and Dignity

Figure 1.1-3 Curved Shapes Soften the Contours of Objects

Color

More than any other element, color can make a room beautiful. Color can set the mood. It can make a room warmer or cooler, larger or smaller. It can hide unsightly features or call attention to the center of interest. Even with the simplest furnishings, the proper use of color can transform a room (Figure1.1-4).

Figure 1.1-4 The Proper Use of Color Can Transform a Room

Figure 1.1-5　Avoid Dramatic Contrasts in Texture

Texture

Texture is playing an increasingly important role in home decorating. Visual texture is a material's apparent smoothness or roughness. To maintain and enhance a casual feeling, use fabrics that are more heavily textured, nubby[1] or rough visual texture. Smooth, shiny surfaces such as silk, moire[2], chintz[3] and silk-like looks support a more formal feeling in a room. Using several levels of complementary textures adds variety and maintains interest. However, it is a good idea to avoid dramatic contrasts in texture (Figure1.1-5).

1.2　Principles of Interior Design

室内设计运用形式语言来表现主题、情感和意境，其基本原则可通过以下方式表现：统一与和谐、重点与趣味中心、均衡、比例与尺度、韵律、色彩、细部等。

统一与和谐。指室内物体的形、色、光、质等组合协调，成为一个整体。和谐可以分为：环境及造型的和谐、材料质感的和谐、色调的和谐、风格样式的和谐等。

重点与趣味中心。房间的趣味中心，即重点强调的地方，使人一进房间就能被它所吸引。在突出强调重点时，应避免主观意念，须以第三者的目光去观察，不能随心所欲、任意摆布，将室内布置得杂乱无章。

均衡是围绕中轴线或中心点，不等形而等量的形体、构件、色彩相配置，达到心理上的"异形同量"，其特点是趋于变化，比对称更活泼生动。均衡的四种形式为：形的均衡，色的均衡，力的均衡，量的均衡。

比例是要素本身、要素之间、局部与整体之间的量度关系，各种构件之间存在着大小、高低、长短、粗细、厚薄、深浅、倾斜角度等适度的关系。尺度指人与建筑间的相对关系。设计中，尺度的把握是通过综合运用各种设计要素来调节人与室内空间关系。在高大的室内空间中，为了获得近人的尺度，造成人与空间的亲和感，需要通过界面上的窗洞、护栏、分隔线以及家具、陈设等要素进行调节。正确地把握尺度与比例关系，意味局部与整体的和谐与统一。

韵律。韵侧重于变化，律指规律性的往复，侧重于统一。无变化不得其韵，无统一不得其律。室内设计中韵律美通过点、线、面有规律的重复变化来体现，表现为：形的渐变，构图的序列，色彩的冷暖、明暗、纯度，材质肌理的不同等。

色彩。在室内设计中可以分为背景色和重点色。背景色常为大面积的色彩，宜用灰调；重点色常为小面积的色彩，在彩度、明度上比背景色要高。在色调统一的基

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1. nubby ['nʌbi] *a.* 有节的
2. moire [mwɑ:] *n.* 云纹绸
3. chintz [tʃints] *n.* 擦光印花棉布

础上，可以采取加强色彩力量的办法，即重复、韵律和对比强调室内某一部分的色彩效果。室内的趣味中心或重点，同样可以通过色彩的对比等方法来加强其效果。通过色彩的重复、呼应、联系，可以加强色彩的韵律感和丰富感，使室内色彩达到多样统一，统一中有变化，不单调、不杂乱，色彩之间有主、有从、有中心，形成一个完整和谐的整体。

细部存在于设计的方方面面，体现布局结构的合理性和准确性。合理性指的是符合人体活动规律，有着流畅的活动路线；准确性指的是有着舒适的结构比例，符合人体工程学，便于人欣赏和使用。细部体现人的视觉普遍具有的停留与转移规律——"热点规律"，当人进入一个空间后，视点总要落在多个具体的细部上，通过不自觉地观看这些细部，迅速评价整个空间的风格定位与视觉印象。好的设计中这些细部点有着特殊的要求，首先，细部与整体风格协调，并具代表性，细部既可隐藏在整体中，又可引导视线，让人们既看到又不觉得突然；其次，细部之间的距离控制要疏密得当，有变化，有节奏感，不产生紧迫感；最后，是细部的完美性，它或是为美化结构的艺术品，或是一种代表性的提炼。

Scientifically one can break interior design down into a few design principles. But be aware because these are not rules; rather see the principles as fundamental underpinnings[1] for a feeling, flair[2] or intuition[3] to interior design.

Principle 1: Unity and Harmony

When doing interior design it is necessary to think of the house as a totality; a series of spaces linked together by halls and stairways. It is therefore appropriate that a common style and theme runs throughout. This is not to say that all interior design elements should be the same but they should work together and complement each other to strengthen the whole composition[4]. A way to create this theme or storyline is with the well considered use of color (Figure1.2-1). For example, you might pick three or four colors and use them in varying shades throughout the house.

Principle 2: Emphasis or Focal Point

Interior design's biggest enemy is boredom.

Figure 1.2-1 Create the Themeor Storyline with the use of Color

1. underpinning [ˌʌndə'piniŋ] *n.* 基础
2. flair [fleə] *n.* 鉴别力
3. intuition ['intju:'iʃən] *n.* 直觉
4. composition [ˌkɔmpə'ziʃən] *n.* 作品

A well-designed room always has, depending on the size of it, one or more focal points. A focal point must be dominant to draw attention and interesting enough to encourage the viewer to look further. A focal point thus must have a lasting impression but must also be an integral[1] part of the decoration linked through scale, style, color or theme (Figure1.2-2). A fireplace or a flat TV is the first example that most people think of when we talk about a room focal point.
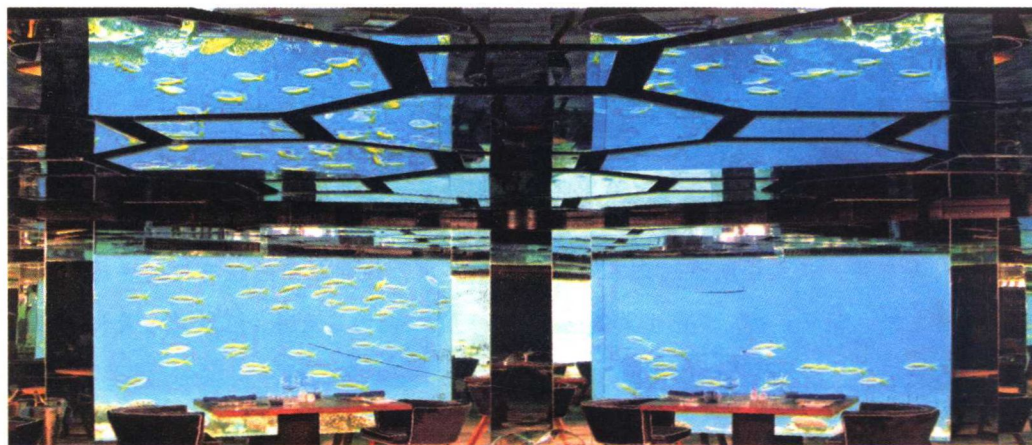

Figure 1.2-2 Sea-restaurant

If you don't have a natural focal point in your space, such as a fireplace for example, you can create one by highlighting a particular piece of furniture, artwork, or by simply painting a contrasting color in one area. Try to maintain balance, though, so that the focal point doesn't hog all of the attention.

Principle 3: Balance

Balance can be described as the equal distribution of visual weight in a room. There are three styles of balance: symmetrical, asymmetrical, and radial.

Symmetrical balance is usually found in traditional interiors. Symmetrical balance is characterized by the same objects repeated in the same positions on either side of a vertical axis, for example you might remember old rooms where on each side of a room is an exact mirror of the other. This symmetry also reflects the human form, so we are innately comfortable in a balanced setting.

Asymmetrical balance is more appropriate in design in these days. Balance is achieved with some dissimilar objects that have equal visual weight or eye attraction. Asymmetrical balance is more casual and less contrived[2] in feeling, but more difficult to achieve. Asymmetry suggests movement, and leads to more lively interiors (Figure1.2-3). Though not often employed in interiors, it can provide an interesting counterpoint if used appropriately.

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1. integral ['intigrəl] *a.* 整体的
2. contrived [kən'traivd] *a.* 人为的，做作的，不自然的

Radial symmetry is when all the elements of a design are arrayed around a center point. A spiral staircase is also an excellent example of radial balance.

Principle 4: Proportion

Proportion refers to the relative size measured against other elements or against some mental[1] norm or standard. This design principle is of extreme importance when decorating a room.

Principle 5: Rhythm

In musical terms we would describe rhythm as the beat of pulse of the music. In interior design, rhythm is all about visual pattern repetition. Rhythm is defined as continuity, recurrence or organized movement. To achieve these themes in a design, you need to think about repetition, progression, transition and contrast. Using these mechanisms will impart a sense of movement to your space, leading the eye from one design element to another (Figure1.2-4).

Figure 1.2-3　London Shopping Center

Figure 1.2-4　Rhythin Is All About Visual Pattern Repetition

Repetition is the use of the same element more than once throughout a space. You can repeat a pattern, color, texture, line, or any other element, or even more than one element.

Progression is taking an element and increasing or decreasing one or more of its qualities. The most obvious implementation of this would be a gradation by size. A cluster of candles of varying sizes on a simple tray creates interest because of the natural progression shown. You can also achieve progression via color, such as in a monochromatic color scheme where each element is a slightly different shade of the same hue.

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1. mental ['mentl] *a.* 心理的，精神的，智力的

Transition is a little harder to define. Unlike repetition or progression, transition tends to be a smoother flow, where the eye naturally glides from one area to another. The most common transition is the use of a curved line to gently lead the eye, such as an arched doorway or winding path.

Finally, contrast is fairly straight forward. Putting two elements in opposition to one another, such as black and white pillows on a sofa, is the hallmark of this design principle. Opposition can also be implied by contrasts in form, such as circles and squares used together. Contrast can be quite jarring, and is generally used to enliven a space. Be careful not to undo any hard work you've done using the other mechanisms by introducing too much contrast!

Principle 6: Color

Color is an element that tends to inspire emotion in people because color has an influence on the value of life above and beyond other considerations. Colors therefore have a definite impact on the atmosphere that you want to create when doing interior design (Figure1.2–5).

Principle 7: Details

Another important element of interior design where it is necessary to take infinite pains is details. Everything from the trimming on the lamp shade, the color of the piping on the scatter cushion, to the light switches and cupboard handles need attention. Unlike color people find details boring. As a result it gets neglected and skimmed over or generally left out.

As color expresses the whole spirit and life of a scheme; details are just as an important underpinning of interior design. Details should not be obvious but they should be right, enhancing the overall feel of a room (Figure1.2–6).

These principles of interior design should guide you when you start either doing

Figure 1.2-5 Colors Therefore Have a Definite Impact on the Atmosphere

Figure 1.2-6 Details Should Not Be Obvious But They Should Be Right

it yourself, or discussing your ideas with your interior designer.

1.3 Learning, Lighting and Color

人类是昼行动物，光照会增加唤醒水平，有助于减少人的瞌睡和抑郁感，秋冬日照时间缩短，一些人会出现抱怨、瞌睡、疲劳、嗜食碳水化合物、体重增加、情绪不高等光饥饿现象。

光与色影响人的精神状态和心理感受，良好的光环境能使人振奋精神，提高工作学习效率和质量，适宜的光环境能创造舒适、优雅、活泼生动的环境气氛。

光与色是学习环境中不可轻视的视觉要素，可以根据不同的使用对象选用不同的营造方式——充分利用自然光、借窗外的远景调节人的眼部及身体运动、全光谱照明、营造入口欢迎的气氛，以及实验室软硬科学空间的分区用光等，从而创造出艺术和科学紧密结合的学习环境。

最佳光环境是人们最喜欢的白天自然光效果，人类一直探索利用人工光源在夜晚延续自己的活动时间和活动空间。现代技术可以帮助人们制造不同色光（冷、暖、中性）的电光源，以适应各种环境的需要。全光谱日光灯是对自然光的模拟，可以使学习工作的人不易疲劳。光环境的设计不应只局限于满足照度标准要求，还应具有明亮、舒适和具有艺术感染力等三个层次。

Uniform illumination levels in the classroom and focused brightness on the "teaching wall" made good sense for students in Henry Ford's era. If you were training to take your place on the assembly line, you needed to focus on the work at hand and ahead to your supervisor[1], but the future no longer belongs to students who look only straight ahead. In a world where advanced degrees in professional disciplines are rapidly becoming a commodity, prosperity[2] belongs to individuals with the ability to react with agility to unpredictable market forces, data, and events.

Fortunately, responding to unexpected events is natural to human beings. We did not evolve as a species to think in a linear path, nor do we learn that way. Effective design is grounded in a firm knowledge of how we do learn which involves both analysis and synthesis and is alternately sequential and simultaneous (Figure1.3–1, Figure1.3–2).

1) Vistas[3], Movement, and Lighting Design Principles

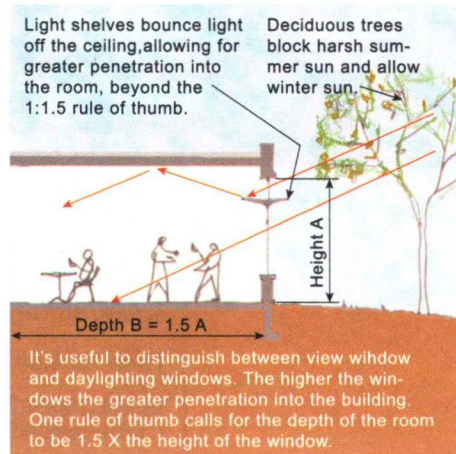It's a natural reflex to look up from a task frequently, and refocus

Light shelves bounce light off the ceiling, allowing for greater penetration into the room, beyond the 1:1.5 rule of thumb.

Deciduous trees block harsh summer sun and allow winter sun.

Height A

Depth B = 1.5 A

It's useful to distinguish between view wihdow and daylighting windows. The higher the windows the greater penetration into the building. One rule of thumb calls for the depth of the room to be 1.5 X the height of the window.

Figure 1.3–1 Day Lighting Pattern

1. supervisor [ˌsjuːpəˈvaizə] *n.* 管理人员，监督，主管
2. prosperity [prɔsˈperiti] *n.* 兴旺，繁荣，昌盛，成功
3. vista [ˈvistə] *n.* 景色，远景，展望

on an element in the distance. People often do this unconsciously. For example, among a group of people in a library or office, individuals look up and out often, with little apparent goal. In fact, they are resting their eyes, by changing the focal length[1]—a form of stretching (Figure 1.3-3).

Figure 1.3-2 Following the Sun
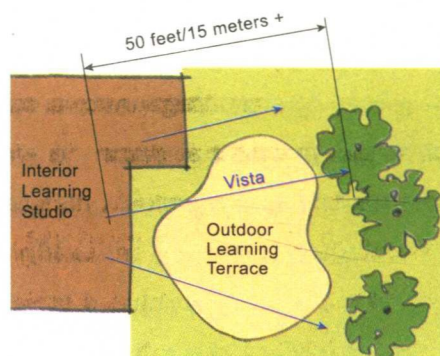
Vistas of 50 feet (15 meters) or more allow us to change our focal length, important to both eye health and comfort.

Figure 1.3-3 Changing the Focal Length

Instinctively, we tend to move towards light and color. Designers can take advantage of the reflex to look up and out. Vistas can be designed to define and order movement, by leading first the eye and then the body through space.

Figure 1.3-4 The Visual Destination Element

Movement is a stimulus to learning, but paths that are confusing or counter-intuitive don't make us feel secure enough to learn at our best. Designers can use movement as a positive design generator by choreographing[2] scenarios[3] in advance. If a visual element at the far corner from a visitor's starting point is highlighted, a person will be attracted to move towards it. The visual destination element may be a sculptural form, taller than the elements around it, or it could be a wall with a brighter color, and a higher level of illumination (Figure1.3-4).

2) Full-Spectrum[4] Lighting

Lighting designers often wrinkle[5] their noses when someone mentions full-spectrum lighting-thinking of the hyped[6] commercial claims for "miracle[7] lights." There is not a good consensus[8] on the definition of a full-spectrum lamp, or on its

1. focal length 焦距
2. choreograph ['kɔ:riəɡrɑ:f] vi. 编排
3. scenarios [si'nɑ:riəu] n. 剧本
4. spectrum ['spektrəm] n. 光谱。full-spectrum 全光谱
5. wrinkle ['riŋkl] vt. 使起皱纹
6. hype [haip] vt. 大肆宣传；大作广告
7. miracle ['mirəkəl] n. 奇迹，奇迹般的人（或物）
8. consensus [kən'sensəs] n. 共识；一致意见；共同意见

clinical[1] benefits.

The desire for a broad spectrum of light and color is consistent with a more holistic[2] curriculum[3]—one that takes into accounts a variety of learning styles and modalities. We all learn differently and at different times. We need a variety of lighting levels and qualities and colors of light. It's natural to want lighting that most closely matches the full spectrum of daylight. The pattern for full spectrum lighting is one example of how this is applied in a learning studio. The following examples of the 21st century school design patterns illustrate how these lighting design principles apply (Figure1.3–5).

3) Welcoming Entry

It's important for a school or university to have a signature—a unique presence in the landscape or cityscape and community. Learners that feel a sense of connection and personal identification with a small learning community attain higher test scores and have a significantly greater graduation rate. Research demonstrates that "small" is defined as 150 students or less (Figure1.3–6).
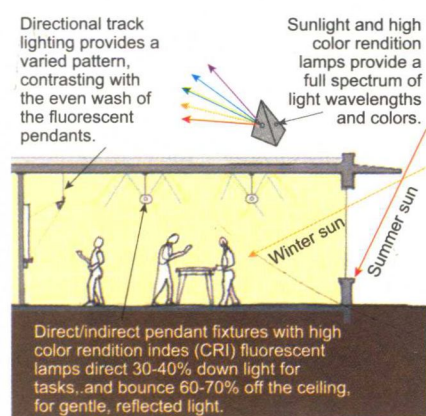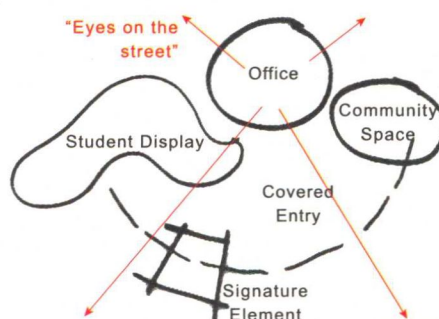
Figure 1.3-5 Full Spectrum Lighting

Figure 1.3-6 Welcoming Entry

Since most schools and universities accommodate more than 150 students, one way to leverage the positive effects of small learning communities is to break down the scale of the environment into smaller buildings or clusters[4] of spaces. The entry to each SLC can be individualized, reinforcing its unique identity. Lighting plays an important role in creating this identity.

The entry area includes a series of inter-connected spaces, each warranting a different approach to lighting. The signature element and student display area should be highlighted. For display areas, track[5] fixtures are all good options[6], with wall wash, linear

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1. clinical ['klinikəl] a. 临床的，诊所的
2. holistic [həu'listik] a. 全部的
3. curriculum [kə'rikjuləm] n. 课程
4. cluster [,klʌstə(r)] n. 群，簇，丛，串
5. track [træk] n. 行踪，轨道，足迹
6. option ['ɔpʃən] n. 选择