https://doi.org/10.37420/j.cer.2026.036

Driving Mechanisms and Success Logic of Senior Entrepreneurship: Visualizing Music—How Graphic Scores Make Elementary Music Classrooms More Engaging

Qiong Li*
Shaanxi Normal University La Botanica Primary School, Shaanxi, China
***Corresponding author, E-mail: 408545738@qq.com**

Abstract:
Graphic scores are visual representations of music created through the use of shapes, colors, and symbolic elements. By translating abstract musical structures into visual forms, graphic scores enhance students' comprehension and perception of music. When applied in elementary music classrooms, they help students better understand musical concepts, perceive changes in musical elements, and overcome the sense of abstraction that often makes music difficult to grasp. The Compulsory Education Arts Curriculum Standards (2022 Edition) call for the adoption of diverse instructional approaches in music education. As a significant form of music visualization, graphic score–based instruction not only enriches teachers' pedagogical strategies and improves instructional efficiency, but also reflects innovative thinking in music education. Furthermore, it expands the possibilities for diversified and engaging teaching practices, fostering a more dynamic and interactive learning environment in elementary music classrooms.

Keywords:
graphic scores; music comprehension; interest stimulation; music education

The Orff approach to music education was introduced to China in the 1980s and has since exerted a profound influence on Chinese music pedagogy. In On Children's Music and Non-Professional Music, it is suggested that children should learn and become familiar with notation in much the same way that they enjoy using drawings to record interesting experiences. Such "pictorial recording" corresponds to the use of graphic scores as a form of musical notation. Accordingly, attention should be given to cultivating children's abilities to perceive, apply, and create graphic scores—an approach that effectively embodies the Orff philosophy of using visual representations to support music learning.

In recent years, graphic scores have been widely employed in singing classes, music appreciation lessons, and instrumental instruction. However, improper implementation has also become evident, with their use often remaining superficial and failing to realize their full pedagogical potential. Drawing on my own teaching experience as well as exemplary instructional cases, this paper aims to explore more effective applications of graphic scores in order to maximize their educational value.

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

1 Understanding the Value of Graphic Scores in Supporting Music Instruction from a Child Psychology Perspective

1.1 Characteristics of Psychological Development in Elementary School Students

First, the development of children's thinking progresses from concrete to more image-based and eventually toward abstract reasoning. Cognitive development involves a gradual transition from perceptual and image-based thinking to abstract and logical thinking. According to Jean Piaget's theory of cognitive development, children in the lower grades of elementary school (ages 6–8) are in the preoperational stage, characterized by concrete and intuitive thinking. At this stage, students primarily acquire knowledge through direct sensory experiences and simple, perceptible concepts—for example, perceiving changes in pitch through visually represented pitch contours in graphic scores.

By the upper elementary grades (ages 9–12), students begin to distinguish between abstract concepts and concrete objects, with logical and abstract thinking gradually becoming more prominent. However, it is important to note that this form of abstract thinking still differs from that of adults, as it retains a strong reliance on concrete experiences and perceptual support.

Second, Piaget also emphasized that children's cognitive development occurs in stages and that emotional and cognitive development progress in parallel. Aesthetic perception is closely linked to aesthetic needs, and in elementary school students, it develops gradually through activities such as music, dance, and visual arts. Their aesthetic responses tend to focus more on concrete content and imagery within works, rather than on abstract artistic qualities.

1.2 Developmental Characteristics of Children's Core Musical Competencies

Experience and growth form the foundation of singing skills and are essential to the development of core musical competencies. The acquisition of these competencies enables children to systematically articulate their internal musical impressions, compare and differentiate musical elements, generalize musical understanding, and ultimately interpret or create music.

Regarding the development of musical competencies, Greenberg (1979) noted that rhythm, tempo, and dynamics are among the earliest musical elements to develop in young children, whereas pitch, melody, and melodic rhythm tend to develop more gradually.

1.3 Advantages of Using Graphic Scores in Music Instruction

Painting possesses musical qualities and evokes auditory imagery; similarly, music often embodies visual qualities and generates visual imagery. Wassily Kandinsky (1866–1944) believed from an early age that music and painting constitute interconnected forms of language—paintings can "sing," and music can "paint." When children represent the sounds they hear through images, their drawings may not achieve the precision or specificity of conventional notation, yet they are still capable of conveying the essential characteristics of sound. Such sound imagery reflects the translation of auditory experience into visual symbols.

In music education, visually guided instructional approaches have been widely explored. For instance,

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

Boardman, Landis, and Andress (1975), in Exploring Music, systematically linked musical elements with graphic forms, using visual representations to express musical imagery. This approach emphasizes understanding musical concepts rather than merely recognizing symbolic notation. By integrating graphic representations with musical experiences, this method facilitates the construction of musical understanding and helps children grasp the organizational structure of music more clearly.

Given the developmental characteristics of elementary school students' cognition and core musical competencies, graphic scores serve as an effective pedagogical tool to engage students actively in music learning. They render abstract musical elements more concrete, visual, and vivid. Through graphic scores, students can represent rhythmic changes, perceive melodic contours, describe harmonic textures, and distinguish timbral variations. This approach not only enhances students' experiential understanding of music but also stimulates their interest in learning, thereby fostering musical aesthetics, performance abilities, and creativity. Furthermore, by integrating the visualization of thinking into music instruction, graphic scores support memory retention of musical knowledge and activities, ultimately increasing students' motivation and engagement in learning music.

2 Design Characteristics of Graphic Scores Based on Image-Dominant Thinking in Elementary School Students

Taking into account students' age and psychological characteristics, graphic scores can be used to represent various forms of musical activity—such as listening, performing, and creating—as well as instructional content. Their design typically incorporates visually intuitive elements, including dots, lines, color blocks, shapes, and even animal imagery. By leveraging students' natural interest in singing and performing, graphic scores can be seamlessly and implicitly integrated into song teaching and music appreciation lessons.

Graphic scores can be broadly categorized into several types, including line-and-dot scores, color-block scores, situational (contextual) scores, symbolic scores, and object-based scores (see Table 1).

Table 1. List of Design Features of Graphic Notation

Type of Graphic Score	Main Characteristics
Line-and-Dot Scores	Use variations in the size and density of dots, as well as the length and thickness of lines, to represent pitch (high/low) and tempo or rhythmic changes (fast/slow).
Color-Block Scores	Use contrasts in warm and cool colors, as well as variations in color intensity, to depict changes in dynamics (loud/soft) and emotional expression.
Situational (Contextual) Scores	Represent musical phrases through graphic images that correspond to the expressive character or imagery of the music.
Symbolic Scores	Use specific symbols to organize heard musical elements according to certain rules, commonly applied in the analysis of musical forms and structures.
Object-Based Scores	Use representations of real-life objects arranged and varied in alignment with the music, effectively illustrating musical imagery.

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

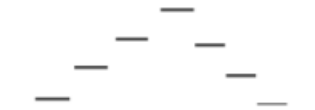
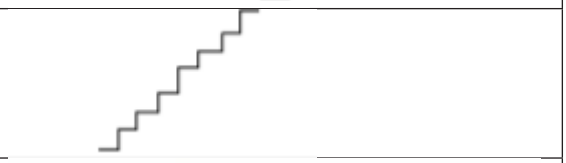
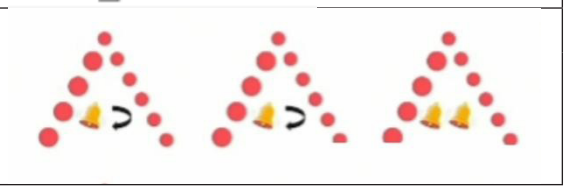
3 Implementation Strategies for Graphic Score–Based Instruction in Music Classrooms

3.1 Designing Graphics Based on Musical Elements

In light of the developmental characteristics of elementary school students' cognition and their core musical competencies, graphic scores can serve as an effective auxiliary tool to actively engage students in music learning. By transforming abstract musical concepts into concrete, visual, and vivid representations, graphic scores facilitate students' understanding of music.

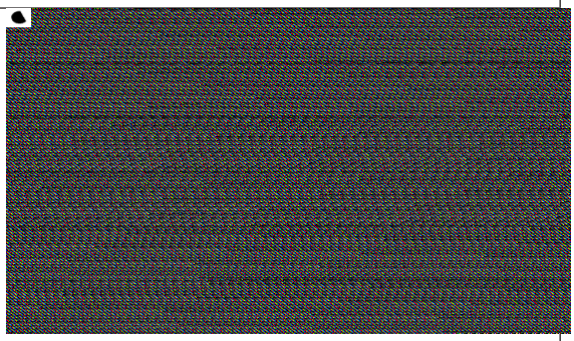
The fundamental elements of music primarily include duration (note value), pitch, dynamics, tempo, and structure. Instructional design should therefore begin with a systematic organization of these elements, followed by the development of corresponding graphic representations for each (see Table 2).

Table 2. Basic Graphic Representations Corresponding to Musical Elements and Instructional Content

Core Musical Competency	Instructional Content	Basic Graphic Representation
Duration (Note Value)	1. Steady pulse (beat)	
	2. Alternation of strong and weak beats (meter)	
	3. Length of sounds and rests	
Pitch	1. Contour of melody	
	2. Comparison of pitch (high, low, same)	
	3.Scales	
Dynamics	1. Relative loudness and softness	
	2. Gradual increase or decrease in volume	

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

<table>
<tr><td rowspan="4">Rhythm</td><td>1. Relative speed (fast/slow) depending on pulse</td><td rowspan="4">

In the fourth-grade textbook (The Typewriter), the teacher designs graphic scores based on the rhythm and tempo of a typewriter, ooooooto represent typing sounds, the end of a line, the “swish” sound,。 irregular rhythms and accents, as rests.</td></tr>
<tr><td>2. Changes in tempo (accelerando/ ritardando)</td></tr>
<tr><td>3. Organization of beats into regular or irregular patterns through accentuation</td></tr>
<tr><td>4. Within a rhythmic phrase, individual sounds and rests may be longer, shorter, or equal in duration compared to others</td></tr>
<tr><td rowspan="4">Melody</td><td>1. A sequence of pitches that may ascend, descend, or repeat</td><td rowspan="4">
In the second-grade textbook (Two Tigers), the teacher designs graphic scores based on pitch and melodic changes by measure, and represents both parts in a round. ○ denotes a half note, represent a quarter note, represent eighth note.</td></tr>
<tr><td>2. Pitch sequences may move stepwise or by leaps</td></tr>
<tr><td>3. Each pitch within a melodic phrase relates to the tonic</td></tr>
<tr><td>4. Individual pitches may be higher, lower, or the same when compared</td></tr>
</table>

In instructional design for music education, graphic representations that support the construction of musical concepts are composed of visual elements such as points, lines, planes, and geometric shapes. The use of graphic scores in teaching can be implemented through three forms of representation aligned with children’s cognitive processes: (1) dynamic demonstration of corresponding graphic scores as the music unfolds (enactive representation), (2) drawing or constructing graphic scores (iconic representation), and (3) verbal description (symbolic representation).

3.2 Principles for Designing Graphic Scores Based on Musical Works

Graphic score design should originate from the musical work itself and be aligned with instructional objectives, integrating graphic-based activities into the teaching process. Its purpose is to serve effective classroom instruction; it should not be used merely for its own sake. As a concrete pedagogical tool, graphic score de-

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

sign must be guided by clear instructional intent. Based on teaching practice, effective graphic score design should follow four key principles:

1.Principle of Intuitiveness

The design should enhance visual clarity, enabling students to perceive and understand musical content through direct visual stimulation. This facilitates comprehension, strengthens memory, and supports more effective learning outcomes.

2.Principle of Simplicity

Since graphic scores are intended to support teaching, their design should remain concise and accessible. Teachers should ensure that visual representations are easy to implement and readily understandable for students—clear at a glance—thereby improving both efficiency and instructional quality.

3.Principle of Instructional Relevance

Graphic score design must be closely aligned with specific teaching needs. The selected visual representations should correspond directly to instructional activities, ensuring that they effectively support learning objectives.

4.Principle of Creativity Enhancement

Graphic score design should avoid rigid or fixed patterns. Teachers should actively guide students to create their own graphic scores. Following this process, feedback is essential: students should be encouraged to articulate the musical thinking behind their designs. This not only serves as a means of expressing musical cognition but, more importantly, provides a visual manifestation of students' understanding of music.

3.3 Constructing Instructional Processes Integrating Graphic Scores

In implementing graphic score–based instruction, teachers create and apply graphic scores as part of classroom practice. In our research project, participants were divided into three groups corresponding to lower, middle, and upper elementary levels. For Grades 1–2, graphic scores were primarily applied in singing instruction; for Grades 3–4, they were mainly used in music appreciation; and for Grades 5–6, they were integrated into both music appreciation and part-singing activities. In addition, exploratory activities were conducted in which students participated in the design of graphic scores, leading to the identification of effective practices for enhancing instructional outcomes.

Graphic score design should run throughout the entire instructional process. Prior to implementation, teachers must conduct a comprehensive analysis of the teaching content, clarify learning objectives, and assess learners' characteristics. Based on this foundation, graphic scores can be designed to align closely with classroom activities. During instruction, graphic score–based activities play a crucial role. Depending on the classroom context, teachers should determine appropriate forms of implementation, such as "drawing graphic scores" and "performing graphic scores," while encouraging upper-grade students to "create graphic scores." In practice, allowing older students to redesign and present graphic scores not only assesses their understanding of music but also stimulates creative thinking.

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

4 Using Graphic Score Instruction to Address Learning Challenges and Enhance Musical Literacy

4.1 Addressing Students' Difficulties in Experiencing Pitch and Rhythm

Example: When guiding students in listening to the German orchestral work In the Clock Shop, the music imitates the regular ticking and mechanical sounds of clocks—such as wall clocks, alarm clocks, and pocket watches. In this lesson, lines of varying lengths were used to represent different rhythmic patterns, while variations in vertical positioning were used to depict pitch and melodic contour (see Figure 1).

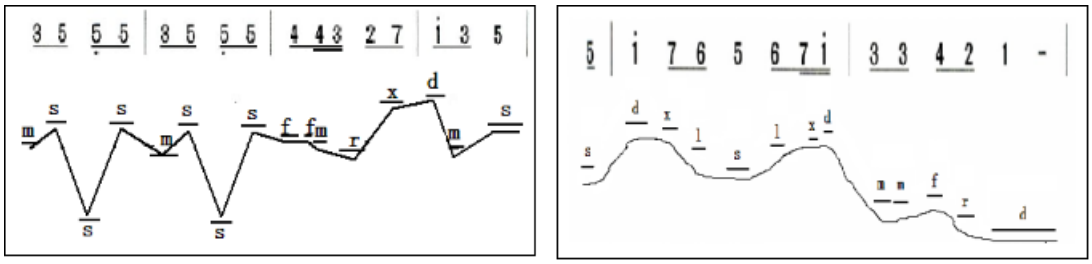


Figure 1. Graphic Score for In the Clock Shop

4.2 Addressing Students' Difficulties in Expressing Music Through Movement

Example: In the appreciation of Gavotte, the teacher provides explanatory cues for the graphic score. For instance, specific symbols( ) represent actions such as clapping, hand movements( ) indicating "low–high–low," placing hands on the head, stomping (▼), and performing wave-like arm motions. These visual cues help students understand the teacher's design intentions.

Through integrated activities of "listening, observing, and moving," students are guided to perceive and differentiate musical forms and structures (see Figure 2).

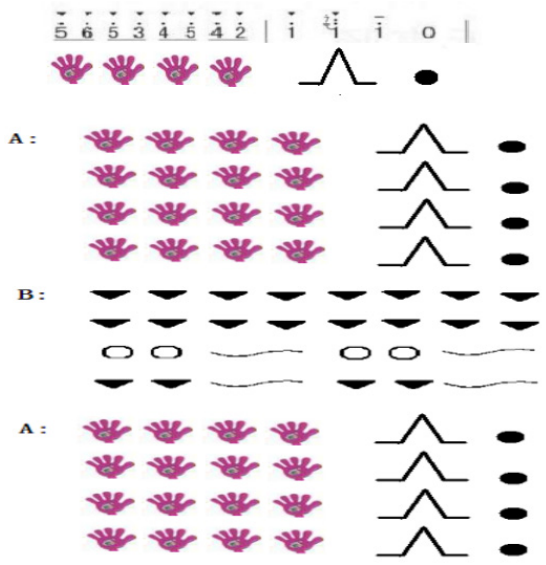


Figure 2. Graphic Score for Gavotte

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

4.3 Enhancing Students' Understanding of Musical Imagery

Vivid and expressive visual representations not only stimulate students' interest in learning but also facilitate their understanding and perception of music. In music appreciation, the effective integration of simple graphic sketches with musical elements enables melodies or lyrics to be transformed into visible and meaningful images in students' hands. This approach helps immerse students in the artistic context of the music and often produces unexpectedly positive learning outcomes.

Example: In teaching the song The Crab Song, students are encouraged to combine simple drawings of crabs with singing. By drawing while singing in alignment with rhythm and melody, the learning process becomes more vivid, engaging, and memorable (see Figure 3).

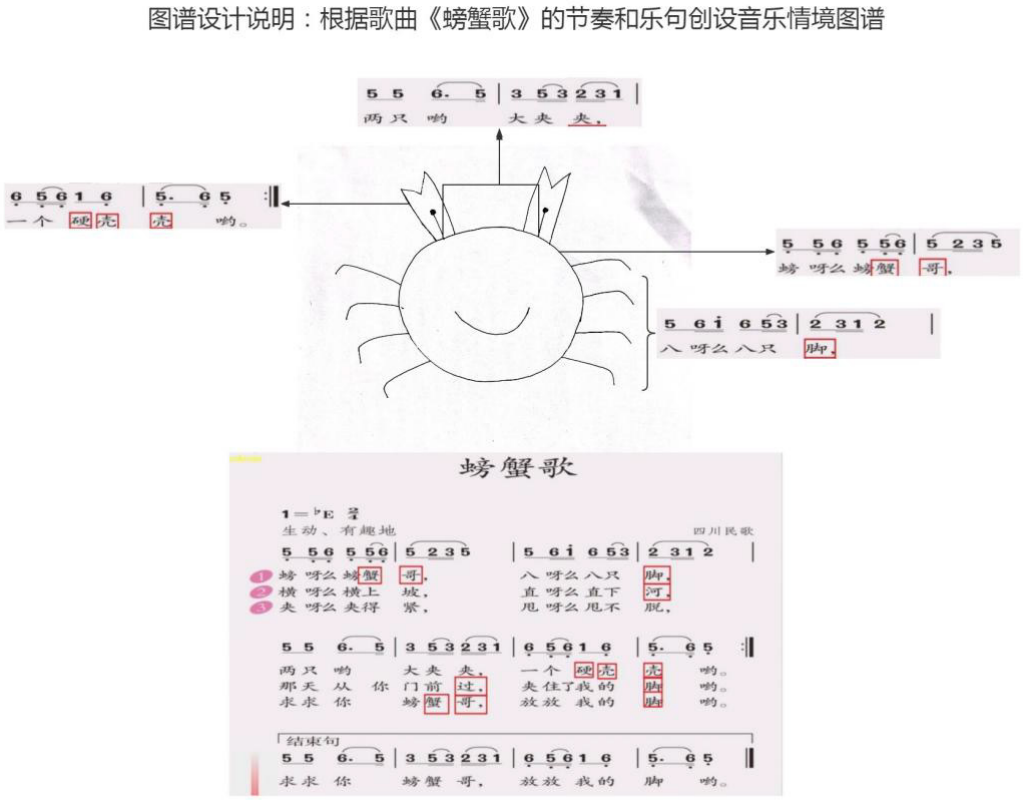


Figure 3. Graphic Score for The Crab Song

4.4 Supporting Students' Understanding of Musical Form

Using graphic scores as a pedagogical tool effectively engages students in musical activities and movement. By visualizing rhythmic accents, phrase structures, and larger formal sections, graphic scores help students better understand musical imagery and structural organization.

Example: In the appreciation of the orchestral work March of the Lion King, the music features heavy, forceful staccato articulation and deep, resonant melodies, conveying the majestic gait and imposing presence of the "king of beasts." A lion-based graphic score was designed to reflect the rhythmic patterns of the piece, visually representing the lion's steps in coordination with the music (see Figure 4).

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

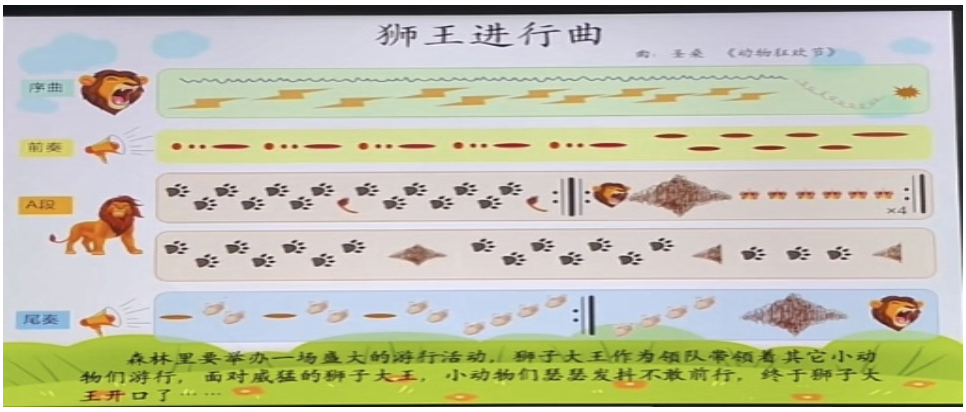


Figure 4. Graphic Score for March of the Lion King

4.5 Expanding Students' Thinking Through the Creation of Graphic Scores

Just as painting possesses musical qualities and evokes auditory imagery, music often embodies visual characteristics and generates visual imagery. In upper elementary instruction, students are encouraged to create their own graphic scores, integrating visual art with musical expression. Through this process, students produce original graphic score works that reflect both artistic domains (see Figure 5).



Figure 5. Classroom Activity: Student-Created Graphic Scores

In summary, the use of graphic scores in elementary music education not only enhances the effectiveness of notation teaching, song instruction, and music appreciation, but also significantly supports students' ability to perceive, experience, and create music.

In practice, teachers should first ensure that students have ample opportunities to listen to and become familiar with the music. Only then should they be guided to interpret, design, and apply graphic scores. When used effectively, graphic scores can greatly enhance the enjoyment of learning and play a vital role in music classroom instruction.

References

[1]Wang, L. (2020). Visible music: The application of graphic scores in elementary school music classrooms. Yellow River of the Voice, (4).

[2]Hu, R. (2020). A preliminary study on the application of graphic scores in elementary music teaching. Fo-

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)

rum on Basic Education, (1).
[3]Wen, H., & Lian, R. (2015). Comprehensive development of thinking and cultivation of innovation ability in primary and secondary schools. Beijing, China: Educational Science Publishing House.
[4]Bransford, J. D. (2019). How people learn. Shanghai, China: East China Normal University Press.
[5]Wang, M. (2016). How to understand children's psychology in elementary music education. Huazhang, (36).
[6]Jin, M. (2015). Making music teaching resonate with children's hearts. Primary School Era (Educational Research), (7).

© 2026 by the author(s); licensee Mason Publish Group, this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (http://creativecommons.org/licenses/by/4.0/)