

# The use of musical scores in order to perform: An exploratory study with flute players

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Sixteen flute students at two levels of expertise from conservatories in Madrid participated in an individual semi-structured interview designed to explore the activities they carry out when they learn a new piece of music, as well as the elements of the musical score that they work on. The learning process was divided into three stages: beginning, middle, and end. Twelve categories of analysis were developed and chi-square was used. Differences in responses were noted between the students at each level of expertise for each stage of practice. Findings are discussed in relation to previous research in development of musical expertise.

*Keywords:* musical score; expert; novice; instrumental learning; flute

In the last decades there has been an increasing research interest in the development of expertise in musicians through the ways they learn and practice music. The musical score, a main element in most of the Western music learning processes taking place in conservatories, constitutes a semiotic system such as texts, graphs, maps, and numbers. These systems are powerful tools through which we develop and accumulate knowledge. Drawing on evidence from different fields, researchers have described different levels of comprehension relating to some representational systems (see Bautista and Pérez Echeverría 2008, Friel *et al.* 2001, Kintsch and van Dijk 1978). Studies of the development of interpretation suggest that some musicians plan interpretation at the outset, primarily letting the expressive ideas guide the technical work (Chaffin *et al.* 2003), while others develop a performance plan after mastering most of the technical challenges (Nielsen 2001). Although practicing notes and difficult passages are important aims for students at all levels, the experts are also interested in expressing a musical idea of the piece from the beginning of learning it, as professional musicians state they do (Chaffin

and Imreh 2001). Novice students are mainly focused on reading and performing the explicit symbols presented on the score (Gruson 1988, Hallam 1994).

The aim of this research was to explore how Spanish flute students at two different levels of expertise used the musical score during their normal learning practices outside the lessons and the nature of the activities they undertook.

## METHOD

### Participants

Sixteen flute students from five different conservatories in Madrid (four intermediate and one tertiary) took part voluntarily in the study. They constituted two groups of different levels, each composed by eight students (five females and three males). The Intermediate ("I") group (mean age=21.1 years), was in its tenth year in the Spanish specialized musical education system, which is the last year before starting the music performance degree. The Tertiary ("T") group (mean age=24.4 years), was composed of flutists in the last two years of the music performance degree.

### Materials

An individual interview was carried out with each participant. They were asked to describe the usual study process that they follow when learning a new piece of music. The interview was designed to explore the activities that the students do when practicing a new piece, as well as the elements of the score in which they focus their attention throughout their practice. The process was divided into three stages, corresponding to the beginning, the middle, and the end of the process. We suggested to the participants that they imagined they were preparing the piece to perform in a concert. In order to give them a context to explain the process, we used the piece *An Evening in the Village* by Béla Bartók (Sz. 39), in an arrangement for flute and piano.

### Procedure

Participants were asked to read Bartók's piece in order to get an overview of it. This took around seven mins. After, they were interviewed individually for approximately 10-15 mins. Data were audio recorded and coded into themes using an iterative process described by Tesch (1990) as empirical phenomenology. A double category system was produced, which is presented in Table 1.

*Table 1.* Category systems.

| <i>Category</i>                          | <i>Definition</i>  |
|--|--|
| System A: Practicing                     |  |
| Reading                                  | Mentioning any kind of entire reading of the score.  |
| Passages                                 | Mentioning any group of bars that seem difficult for the students, to practice them separately.                                    |
| Recording                                | Mentioning any kind of activity using a recording of the piece, but not when referring to record himself/herself.                  |
| Pianist                                  | Mentioning any activity to be done with the piano accompanist.   |
| Speed                                    | Mentioning any activity that involves modifying speed of the score.  |
| Memory                                   | Mentioning any process of memorizing the piece.  |
| System B: Score or instrumental elements |  |
| Notational level                         | Mentioning any explicit mark on the score, apart from dynamics and regulators (rhythms, notes, accents).                           |
| Dynamics                                 | Mentioning dynamics and regulators.  |
| Syntactic level                          | Mentioning any term that implies to relate two or more elements from the score—for example, melody, structure, motif, phrase, etc. |
| Expressivity                             | Mentioning expressive terms, about character or musicality.  |
| Style/composer                           | Mentioning something about composer, style and/or historic period.   |
| Skills                                   | Mentioning the practice of skills that cannot be included in any of previous categories, like pitch, breathing, sound, etc.        |

System A refers to activities to carry out when practicing a piece. System B refers to elements from the musical score or to the instrument. Three independent judges categorized 20% of the total responses. Inter-rater agreement level was calculated by Cohen's Kappa coefficient, which ranged from 0.75-1.00. We use statistic chi-square to analyze differences between groups for each category at each stage.

## RESULTS

In the beginning stages (see Figure 1), the "I" group reported being mainly focused on reading activities, listening to recordings, and working on specific passages. References to musical elements included focus on the notes, rhythms, and indications about tempi. Students from the "T" group referred to reading processes and to selecting and working on difficult passages. In contrast to the "I" group, they referred to activities related to syntax such as

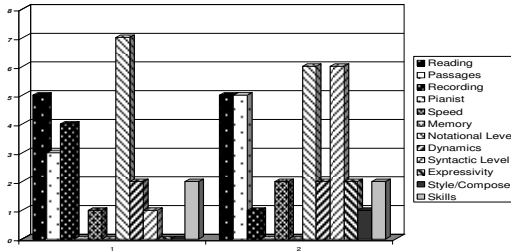


Figure 1. Categories reported in the beginning of the process (1=intermediate group, 2= tertiary group).

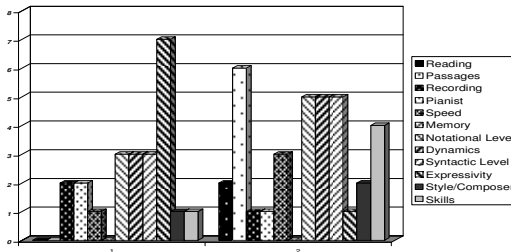


Figure 2. Categories reported in the middle of the process.

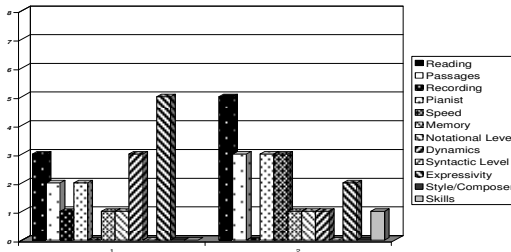


Figure 3. Categories reported at the end of the process.

identifying the structure of the piece, main themes, etc. These differences were statistically significant ( $X^2=6.35, p=0.012$ ). In the middle stages, most students in the “I” group (88%) mentioned expressivity, and there was an increasing focus on dynamics. The “T” group demonstrated a less marked change from the beginning stage than the “I” group. Reading activities decreased with a greater emphasis on working at different speeds, developing skills, and focusing on specific passages and dynamics (see Figure 2). In the end stage, the “I” students continued to focus on expressivity and dynamics.

The “T” group referred to more activities (15 statements) than musical elements at this stage (5 statements). They seemed to return to a consideration of the piece as a whole with a reduction in the focus on specific elements from the score (see Figure 3).

## DISCUSSION

The findings support those from earlier research demonstrating changes in the use of practicing strategies as expertise develops (Gruson 1988, Hallam 2001). The most expert participants approximated the pattern of learning reported by professional musicians, getting an initial overview of the work, identifying difficult passages and focusing on them, then as the performance neared focusing on the piece as a whole (Hallam 1995, Chaffin *et al.* 2003). Lane (2006) conceptualizes this as moving from macro to micro and returning to macro. Nonetheless, this pattern is not too clear and would need to be checked in further studies using a broader sample.

It is also relevant that the “T” group establishes relations among elements present on the score, which can be noticed by the presence of the syntactic level from the first stage of practice, whereas participants from the “I” group are mainly focused on notational elements at the beginning, moving from there to expressivity in the next stages. Although neither of these two groups can be considered novice, the high frequency of the notational level is relevant, mainly in the early stages of the learning process. According to previous research, experts are focused on expressivity from the beginning (Chaffin and Imreh 2001, Chaffin *et al.* 2003). This presence of notational level can be understood as the need to practice the elements on the score, which is a technical issue not related with the comprehension of the piece.

There are limitations in the extent to which the findings from this study can be generalized. It was an exploratory study based on a small sample of students, representing expertise on a single instrument, and who had undertaken their studies in a specific learning environment. In addition, the findings are based on self-report rather than direct observation of behavior itself. However, there is no reason to suppose that the conceptual strategies that the students reported adopting are not similar to those of other students studying in Western conservatories. Using categories as those developed in this research and studying the relationships established among them in each stage of practice can provide further evidence about comprehension and use of the musical score in instrumental learning processes.

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