

Good Sight-Readers: Born or Bred?

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The myth of good sight-readers being born with the talent persists in piano studios. Many teachers do little beyond reading through unfamiliar material in lessons. Research has revealed that sight-reading is a complex skill and identified a number of useful strategies aimed at its development. This paper will attempt to provide some directions and make practical suggestions for piano teachers by reviewing the literature on the topic and focusing on three main areas: accompanying, improvement of rhythmic errors and structural analysis. Research suggests that experience in accompanying and especially the size of accompanying repertoire are better indicators of students' sight-reading ability than the amount of deliberate practice undertaken by students. Studies have shown that the overall sight-reading ability is closely linked to the capacity to read rhythms and that the greatest number of errors and improvement occurs in the category of rhythm. This suggests that improvements in sight-reading of rhythms have a significant effect on the overall performance and are best achieved by mental rehearsal, counting out loud and the use of syllabic systems. Other factors contributing to fluent sight-reading include knowledge of period, style, form and phrase structure, which allow the performer to anticipate and correctly predict the flow of music. Training in recognition of tonal patterns and macro/micro-analyses are beneficial activities that help students develop an understanding of music.

Introduction

Piano teachers work with students of wide-ranging sight-reading abilities in their studios: talented students who are poor readers and average students who are good readers. There appears to be no clear evidence indicating why this is so. Many teachers believe the sight-reading skill is an important part of playing the piano and attempt to do something to improve this ability in their students. The teaching strategies to achieve this are often limited to sight-reading unfamiliar material in lessons and correcting students' mistakes. The practising of sight-reading alone does not appear to have a marked effect on its improvement. What many teachers search for are simple strategies that can be implemented in their studios without the aid of complex equipment and have a dramatic effect on improving students' sight-reading.

The research into sight-reading of music has been somewhat limited to date. The 1992 *Handbook of Research on Music Teaching and Learning* by Colwell devotes a very slim chapter of six pages to reviewing sight-reading studies conducted mostly in the 1970s and 1980s. Ten years later *The New Handbook of Research on Music Teaching and Learning* (Colwell and Richardson, 2002) does not even have a chapter on sight-reading since only a handful of new studies have been published during that time. The existing research on sight-reading tends to focus on three main areas: eye movement, errors detection and teaching strategies (for detailed review see Hodges, 1992).

The eye movement studies tend to use complex equipment to monitor eye movements of expert and novice sight-readers and conclude that good sight-readers look further ahead than poor sight-readers (Goolsby, 1989; Sloboda, 1974). While this concept appears to be self-evident, the teaching of it is not easily implemented in a

typical piano studio unless the teacher has an electronic keyboard, a computer and specialist software, for example, as developed by Souter (2002).

The studies in error detection have been aimed mainly at conductors who need to be able to notice deviations from the printed score aurally. While keyboard students scored higher in detection of errors than other musicians (Hansen, 1961), no causal relationship has been established between improvements in this skill and in sight-reading ability.

The studies devoted to the teaching of sight-reading are “so scattered as to render overall conclusions exceedingly difficult” (Hodges, 1992, p. 467). This is still true today. No studies have been replicated and few use similar approaches. This makes it difficult for teachers to find a reliable method for teaching sight-reading and forces them to rely on their own experience and materials. There exists an urgent need for the development of effective means of teaching sight-reading and for appropriate teaching resources.

What is sight-reading?

Sight-reading of music means playing without any preceding practice on the instrument of that piece (Gabriellson, 1999). It is a complex skill that “relies heavily on reading the score, generating adequate fingering, and executing corresponding motor responses in a smooth fashion at or near performance tempo” (Lehmann & Ericsson, 1993, p. 123). This is particularly difficult for pianists who must read simultaneously two lines of music in different clefs and to co-ordinate both hands.

The ability to sight-read fluently is often seen as an essential skill for a pianist. For example, McDonald (1989) suggests that a pianist must acquire this skill in order to function adequately at the keyboard. Accompanists and repetiteurs in particular need to have this skill developed to a very high degree. These pianists have to play their own part while scanning another instrumental/ vocal part at the same time and often have to learn new repertoire in a very short time (Lehmann & Ericsson, 1993).

Research has demonstrated that there are many strategies for improving sight-reading (Gabriellson, 1999) and identified predictors of sight-reading achievement (for review, see Stebleton, 1987). In spite of this a recent study of teaching styles in Australian conservatoriums (Zhukov, 2004) found that tertiary music teachers tend to neglect this area, assuming that students either have this ability or they do not. Similar attitudes were reported in a large study of American college pianists (Kornicke, 1995) where sight-reading was included in fewer than half of subjects’ lessons. These studies document a persistent teacher attitude that good sight-readers are born with the talent rather than trained.

Accompanying

The literature suggests that the amount of deliberate practice undertaken by students does not seem to predict their sight-reading performance. Experience in

accompanying and especially the size of accompanying repertoire are better indicators of students' sight-reading ability (Lehmann & Ericsson, 1993). For example, the study of university non-piano majors by Watkins and Hughes (1986) reported improvement in rhythm accuracy after a 10-week experiment in accompanying of a tape-recorded soloist.

This suggests that in addition to sight-reading solo materials in lessons piano teachers could try to provide their students with accompanying opportunities. For example,

- beginner piano students could play duets with their teacher
- intermediate students could accompany themselves while singing simple songs or play duets with other students
- advanced students could be encouraged to accompany other instrumentalists at their schools.

Rhythm-training

The ability to sight-read rhythms has been closely linked to the overall sight-reading ability (Elliott, 1982). In fact, research found that rhythmic errors tend to outweigh all other type of errors in sight-reading (McPherson, 1994) and sight-reading training produces the greatest improvement in the rhythm category (Kostka, 2000). This suggests that improvement in rhythm reading could have a significant positive effect on the overall sight-reading of music.

For instance, frequent rhythm errors in sight-reading could be overcome by scanning the music for relevant information and mentally rehearsing prior playing (McPherson, 1994). Counting out loud can help students at elementary level to improve the sight-reading of rhythmic notation (Salzberg and Wang, 1989). In particular, the use of the syllabic system that subdivides the beat into two and three and specific words representing complete rhythmic patterns has been found to be effective for improving rhythm literacy (Colley, 1987).

These studies suggest the following practical applications in piano lessons prior to sight-reading of new materials:

- considering the time signature
- discussing the choice of tempo
- scanning through the music together, noting unusual rhythms such as triplets, fast and slow notes, ties and rests
- working through the piece together by vocalising the rhythm while maintaining the beat by foot-taping or hand-clapping (teacher reads the left hand rhythm while student reads the right hand and vice versa)
- letting students play through the musical example.

Structural analysis

Sight-reading ability has been linked to the understanding of musical language, such as knowledge of form and style (Sloboda, 1978) and perception of phrase structure (Sloboda, 1974). A recent study by Waters, Townsend and Underwood (1998) suggests that skilled sight-reading requires pattern recognition and prediction skills. Experienced readers tend to view notes in blocks such as phrases perceived within the framework of a musical style (Hodges, 1992). This suggests that understanding style characteristics and structural analysis can help the performer to anticipate the flow of the music (Gabiellsson, 1999).

For example, for pianists, a piece of music in the polyphonic style involves one hand imitating the other hand. In the classical style the right hand carries the melody and the left hand is more stationary, often using the Alberti bass. Macro-analysis (e.g., binary or ternary form) and micro-analysis (e.g., similar/ different phrases) can assist in identifying repeated patterns of music.

Training in recognition of tonal pattern content (e.g., major/ minor) through the use of harmonisation and vocalisation activities has been found to be beneficial for sight-reading progress (Grutzmacher, 1987). Other simple strategies related to musical structure such as observing the key and time signature prior to sight-reading can also improve the overall performance (McPherson, 1994).

These studies suggest several practical strategies for piano lessons:

- discussing style characteristics prior to reading, for example
- *Baroque style*: polyphony, independence of hands, imitations between hands, both rhythmic and intervallic, linear motion of voices as opposed to vertical reading of notes, use of sequences, a more detached articulation
- *Classical style*: right hand melody with stationary accompanying left hand, pattern recognition of major/ minor chords and scales, symmetrical 2- and 4-bar phrases, modulations to the dominant and back to tonic
- pointing out these stylistic features in the practice example
- discussing key signature and time signature
- analysing the overall structure and phrase length
- playing through the example
- spending several weeks on each style in order to gain the understanding and experience necessary to acquire pattern recognition and prediction skills.

What can be improved by teaching sight-reading?

The study by Betts and Cassidy (2002) of university students reports that sight-reading training produced greater improvement in accuracy of the left hand than of the right hand in non-keyboard music majors, however overall the right hand was more accurate and consistent. This result supports anecdotal evidence from teaching studios with teachers observing greater student persistence with the right hand when sight-

reading and more errors in the left hand. Better understanding of keyboard harmony and of the importance of bass lines in piano writing could assist students in improving their sight-reading in left hand.

Kostka (2000) describes modest gains in overall sight-reading of undergraduate music majors using error-detection plus the shadowing method (silently playing the notes without pressing the keys). The limited improvements reported in this study need to be replicated by other researchers before this strategy can be endorsed for the use in the teaching studio.

In the area of rhythm sight-reading a number of studies have reported significant improvements in sight-reading with training. This makes it possible to give a strong recommendation for rhythm-training as a useful teaching strategy for the overall improvement of sight-reading.

Implications for future research

One of the problems of research into sight-reading of music is that there is no theory dedicated explicitly to an explanation of music reading (Hodges, 1992). Future applied research needs to focus on finding effective means of sight-reading training at all stages of learning a musical instrument. The key to the future lies in the development of a sight-reading curriculum and materials.

The mounting research evidence on the effects of sight-reading training suggests that expertise in this skill is indeed acquired and not innate. From the studies reviewed in this paper we can conclude that increasing one's accompanying repertoire, improving one's analytical understanding of music, and rhythm-training are useful strategies for the development of sight-reading in pianists.

Some of these ideas will be tested in pilot studies in sight-reading at the Sydney Conservatorium later this year in order to evaluate in the university setting the areas highlighted by research and to determine the comparative efficacy of a range of methods. This will lead to longer studies in the future in order to develop appropriate curriculum for teaching sight-reading to undergraduate piano students.

About the Author

Katie Zhukov began her music education in Ukraine and later at the Elder Conservatorium, Adelaide, graduating with First Class Honours. She studied with Gyorgy Sandor at the Juilliard School of Music in New York, where she earned her Master's degree in performance. Dr. Zhukov has recently completed her Ph.D. at the UNSW. Since returning to Australia Dr. Zhukov has taught at the WA, Queensland and Sydney Conservatoriums, examined for the AMEB, and continued to perform.

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References

- Betts, S. L., & Cassidy, J. W. (2000). Development of Harmonization and Sight-Reading Skill among University Class Piano Students. *Journal of Research in Music Education*, 48 (2), 151-161.
- Colley, B. (1987). A Comparison of Syllabic Methods for Improving Rhythm Literacy. *Journal of Research in Music Education*, 35 (4), 221-235.
- Colwell, R. (Ed.). (1992). *Handbook of Research on Music Teaching and Learning*. New York: Schirmer Books.
- Colwell, R., & Richardson, C. (Eds.). (2002). *The New Handbook of Research on Music Teaching and Learning*. Oxford: Oxford University Press.
- Elliott, C. A. (1982). The Relationships among Instrumental Sight-Reading Ability and Seven Selected Predictor Variables. *Journal of Research in Music Education*, 30, 5-14.
- Hansen, L. A. (1961). A Study of Score Reading Ability of Musicians. *Journal of Research in Music Education*, 9, 147-156.
- Hodges, D. A. (1992). The Acquisition of Music Reading Skills. In R. Colwell (Ed.), *Handbook of Research on Music Teaching and Learning* (pp. 466-471). New York: Schirmer Books.
- Gabrielsson, A. (1999). The Performance of Music. In D. Deutsch (Ed.), *The Psychology of Music* (2nd Ed.) (pp. 501-602). New York: Academic Press.
- Goolsby, T. (1989). Computer applications to eye movement research in music reading. *Psychomusicology*, 8, 111-126.
- Grutzmacher, P. A. (1987). The Effect of Tonal Pattern Training on the Aural Perception, Reading Recognition, and Melodic Sight-Reading Achievement of First-Year Instrumental Music Students. *Journal of Research in Music Education*, 35 (3), 171-181.
- Kornicke, E. (1995). An Exploratory Study of Individual Difference Variables in Piano Sight-Reading Achievement. *The Quarterly Journal of Music Teaching and Learning*, 6 (1), 56-79.
- Kostka, M. J. (2002). The Effects of Error-Detection Practice on Keyboard Sight-Reading Achievement of Undergraduate Music Majors. *Journal of Research in Music Education*, 48 (2), 114-122.
- Lenhmann, A. C., & Ericsson, K. A. (1993). Sight-reading Ability of Expert Pianists in the Context of Piano Accompanying. *Psychomusicology*, 12, 122-136.
- McDonald, S. R. (1989). A Survey of Curricular Content of Functional Keyboard Classes Designed for Undergraduate Piano Majors (Doctoral Dissertation, University of Oklahoma, 1989). *Dissertational Abstracts International*, 50-06A, 1476.
- McPherson, G. E. (1994). Factors and Abilities Influencing Sightreading Skill in Music. *Journal of Research in Music Education*, 42(3), 217-231.
- Salzberg, R. S., & Wang, C. C. (1989). A Comparison of Prompts to Aid Rhythmic Sight-Reading of String Students. *Psychology of Music*, 17, 123-131.
- Sloboda, J. A. (1974). The Eye-hand Span: An Approach to the Study of Sight Reading. *Psychology of Music*, 2(2), 4-10.
- Sloboda, J. A. (1978). The Psychology of Music Reading. *Psychology of Music*, 6(2), 3-20.

- Souter, T. (2002). Manipulating Working Memory to Improve sight Reading Skills. *Proceedings of 7th International Conference on Music Perception and Cognition*, Sydney, Australia, 639-642.
- Stebbleton, E. (1987). Predictors of Sight-Reading Achievement: A Review of the Literature. *Update: The Applications of Research in Music Education*, 6 (1), 11-15.
- Waters, A. J., Townsend, E., & Underwood, G. (1998). Expertise in Musical Sight Reading: A Study of Pianists. *British Journal of Psychology*, 89 (1), 123-149.
- Watkins, A., & Hughes, M. A. (1986). The Effect of an Accompanying Situation on the Improvement of Students' Sight Reading Skills. *Psychology of Music*, 14, 97-110.
- Zhukov, K. (2005). Teaching Styles and Student Behaviour in Instrumental Music Lessons in Australian Conservatoriums. *ProQuest Information and Learning*, ISBN 0-542-01937-X (UMI No. 3166825).